

THE
AUTOMOBILE
MAGAZINE

EDITED BY
ANGUS SINCLAIR

MARCH, 1902



Beginning his Education Properly.

174 BROADWAY, NEW YORK, U. S. A.

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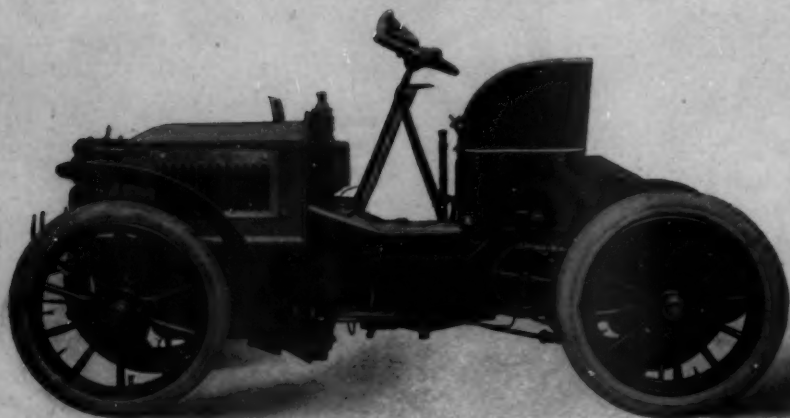
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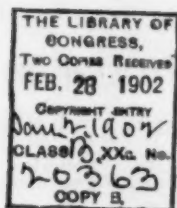
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AUTOMOBILE MACHINE



THE AUTOMOBILE MAGAZINE

VOL. IV

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No. 3

A Plea for the Club Emblem

By R. CHESWICK PETERS



THE club badge should be to the automobilist what the club signal is to the yachtsman. Unfortunately this is not the case, in America at least. An attempt by the writer to collect fac-similes of all the automobile club badges in this country by a personal appeal to the clubs for copies of their badges, resulted in the securing of just two, that of the Automobile Club of America and of the Buffalo Automobile Club.

In most instances the request was entirely ignored; in a few cases the club acknowledged the receipt of the communication but regretted it could not comply therewith for various reasons, usually because the club had no badge. So the result of the badge collecting attempt was that so far as I have any official knowledge there are but two out of the thirty odd automobile clubs known to exist in this country which have badges.

In direct contrast to this experience at home were the very prompt, courteous and complete responses received from European organizations. In not a single instance was the writer's letter allowed to remain unacknowledged, and in no acknowledgment of it did the club official replying put his club on record as being unprovided with an emblem of some kind. To the contrary, I am of the opinion that in not a few instances the badge was really about all there was to the organization claiming it, but, whether this was true or not, invariably

there was shown a pride in the insignia which was a thing utterly lacking in American organizations.

To supply me with copies of their badges many of the foreign club officials sent me pen and ink drawings of them, and in not a few instances water-color sketches thereof, which were veritable works of art in their way. From the forty or more examples I received of these, I have here reproduced some of the most striking ones, to show the wide range of their designing.

Of course, it is but natural that in the older countries, where for generations people have studied heraldry in all its branches—and in my opinion the club badge is not an altogether unworthy branch thereof, — the club emblem should be given a prominence it can never expect to attain in this



country. Here heraldry is a thing the ordinary man leaves to his stationer, being content with what that individual does or does not do for him in the line of crests, emblems, and the like. When the ordinary American gets the stationer's idea of what the emblem or crest should be, if he likes the looks of it, he pays the stationer's bill therefor, and forthwith orders the emblem placed on his stationery, carriages, plate, and the like. Then he goes on his way without further thought in the matter.

To men of the New World armorial bearings, no matter whether they be proper or debased, are merely ornaments, things they procure when fortune has smiled upon them sufficiently to make them forget they are made from the common clay, and to believe that they are a superior sort of porcelain made from a Kaolin from which only one who has made his "pile" can expect to come.

While the foregoing reasons may or may not account for the manifest lack of interest shown by American automobile clubs in the designing and the employment of artistic emblems, it is nevertheless to be regretted that such an apathy does exist. To the enthusiastic club man, and he is the only kind worth having, the badge of his organization is something to be proud of. It is to him what the flag is to the soldier, a thing to be looked up to, fought for, honored and

protected. This begets loyalty, enthusiasm and self-sacrifice, without which no organization or cause can prosper.

For a man who owns a yacht to be unable or unthinking enough not to on all occasions aboard his boat fly the pennant which shows of



what club he is a member is for him to lay himself open to grave suspicion. Other yacht owners noting instantly the omission of a club emblem are at once inclined to believe that those who know the boat's owner best think him unworthy of being associated with, or else he himself is of so selfish a nature that he does not care to join a club.



In either event he is adjudged as being an undesirable acquaintance and as such is left severely alone by all other yachtsmen.

What is the consequence? It is a very rare occurrence for a yacht not to be enrolled in some club—many belong to a score or more—and yachting prospers. Its clubs are numerous and its interests everywhere are looked after and protected. What has been done



in yachting can be done in automobiling, which is to land very much what yachting is to water, if only the automobile club badge is made of more vital importance. If the automobilist could be made to regard the club badge upon his vehicle or on his cap in the same way

the yachtsman looks upon his club flag, all would be well. Then not to belong to a club, or not to display the emblem of the club to which he did belong, would at once place the unfortunate automobilist on the defensive. He would always feel called upon to explain and to justify his apparent inability to associate with his fellow men. Eventually this would become too onerous and he would be forced to join a club and compelled to display the badge thereof purely for a self-protective reason, if for no other. The very natural result of all this would be that the clubs would flourish and with their doing so the cause of automobiling would be immeasurably benefited.

As the matter is now the club man constitutes a very small proportion of those who own or use motor vehicles. Clubs are few in numbers, and are lacking in members and influence. The public, judging all things by their recognized representatives, misjudge automobiling by the weakness of its clubs and passes on uninterested and unimpressed by the new vehicle.

Until in automobiling a similar condition prevails to that in yachting, where the club emblem is a necessity, a thing to be sought after, prized and displayed on all possible occasions, just so long will automobile clubs and the cause they stand for, languish. All this gives the club badge an importance which automobile club officers and club men have not seemed to appreciate. Make your club emblem a badge of honor; let it be known as something which guarantees the sportsmanship and social standing of its wearer, and at once you inaugurate the golden era of automobiling. Let matters go on as they are now going, permitting a club membership to be something which is neither a necessity nor of value to the owners, users or makers of automobiles, and you will make of automobiling a by-word in the realm of sport, and a weakling in the race for public favor.

Cure for That Tired Feeling

The busy doctor was hurrying down the street when he was stopped by one of those individuals whose constant aim it is to save a penny.

"Doctor, I am all worn out and sick and tired. What ought I to take?" said the seeker after "sidewalk" advice.

"Take an automobile," was the reply of the unfeeling, but not unsophisticated man of medicine.

Vagaries of a Vermont Automobile

By W. D. WOOLSON



AMONG the many interesting articles that appear upon the pages of the *AUTOMOBILE MAGAZINE*, none are of more interest to me than those narrating the experiences of that ever increasing army of automobile owners and users; perhaps this is because in moments of reflection I feel as if I too belong in that army, or perchance it is because reading these articles partially convinces me that there are others beside myself who do not know it all.

Possessed of these ideas, I make bold to pay an installment on my debt of gratitude to these writers of experience by giving a few experiences from life with the automobile up here in the woods of Vermont, where macadam roads are as scarce as golden streets, and the art of the road-maker consists in periodically scraping the sods and stones into the center of the path, and making water bars across the highway at every conceivable opportunity.

My first vehicle was a steam one and I had sold it. I lived upon investigations for the next month. No buyer of a horse ever examined the teeth or the hoofs of his intended purchase more carefully than did I the workmanship and the material of the various makes of vehicles. I believe there is an old legend of a man who felt so strong that he elected to fight the devil. I did not select the devil as a thing to wrestle with, but I did choose a gasoline vehicle, and I often think may be the other chap had the softest job in his devil beating.

After my previous experience with a steam vehicle, the confidence with which I tackled that gasoline one was simply sublime, you couldn't possibly call it anything else. My second choice was a single-cylindered, model C, Packard, weighing a ton. It was delivered at Boston, and at the beginning of a bright July day, just after a rain, I started for my home in central Vermont with a representative of the

makers to aid me. That ride was a dream. Not even the adjustment of a nut was required on that trip of 136 miles, even though it was over a very hilly country and roads which were not of the finest.

We made the trip in a running time of 8 hours and a quarter, and that with a vehicle just out of the factory, with the paint not yet dry on it, certainly was phenomenal. Once we were sent out of our way, and had to run up a mountainous road near Keene, N. H., using our hill-climber continuously for $1\frac{1}{2}$ hours. That was the only time I ever saw the cylinder cooling water get hot enough to boil. Coming down the other side of this mountain, my companion seemed to think it a religious duty, as well as a real pleasure for him to go as fast down that mountain as the combined forces of gravity and the engine could drive that heavy carriage. I finally persuaded him to bring the speed down to a modest 40 miles an hour at least until we had reached a road which had a few less water bars (thank-you-marms), and a mile or two more of straightness in it. I never rode a jack rabbit, but the way the vehicle jumped those thank-you-marms was as near the sensation as ever I care to come.

In my stable, my horses took the arrival of that automobile much to heart, and five of them almost died with some form of distemper the next month. Time cures all things, even horses, and now those faithful beasts of mine have so far recovered that they are occasionally kind enough to haul their rival in, when it has a bad attack of heart failure. My hostler did almost as much kicking as his four-footed charges. He insisted that he had to hunt for the horses in the hay loft, because they invariably went up the feed spout every time I started the engine in the stable; and when I asked him to wash that automobile, he fainted dead away, and revived only enough to give notice of his departure.

Being thus left to my own devices, I had many pleasant rides in that vehicle, and some mighty unpleasant experiences under it. One thing I have had duly impressed upon me, and that is, unless you have an urgent engagement in the road directly in front of the dasher, you don't want to throw in your low gear when the carriage is running at any speed. This is a simple matter. It is so simple, in fact, that any one would know it if he stopped to think about it, but I presume I must have been as dense as a door mat, since I nearly disemboweled myself on the steering column in finding it out by experience.

My first real trouble was with the friction clutches, which being enclosed and the oil hole plugged, got to cutting before I was aware

of the trouble ; but on returning them to the makers of the carriage, they sent me new ones gratis. Right here I want to say that the treatment the makers have invariably given me has in every instance been courteous, liberal and efficient. It is worth the price of the carriage to know that there are some manufacturers who are interested enough in the successful operation of their vehicles, after they have



got your money, to do what they can to remedy any dissatisfaction on the part of the owner. My experience with my first vehicle had almost made me doubt this.

The next jar to my routine of pleasure was experienced in a neighboring town, after an eight or ten mile run. I had my wife and our three cherubs on board, when suddenly sundry noises from beneath the cushion made me head the vehicle for a side street. I had

a vague feeling that the motor was about to have a spasmodic attack of indigestion. Scarcely had I gained the coveted seclusion of an unfrequented thoroughfare when, with a rip and a groan, the motor stopped. It only took a glance at the engine-cavity to show that one of the bolts holding the cap of the crank-pin box had worked back about a turn. This play had broken the other bolt off at the juncture of the cap and the box, allowing the cap to swing around and release the piston, which, at the next explosion, shot through the lower casing, but fortunately doing no other damage. It was an easy matter to transfer my erstwhile passengers and unwilling deserters to the next home-bound electric car, and after this to secure some new bolts, replace the cap, and arrive home two hours late for dinner.

Up to this time I had had no ignition troubles of any account. Of course, as a matter of physical development, I had at times turned the crank to the amusement of the crowd, but never had run the carriage very far by this method. Nevertheless, it came at last. I had started early one morning to run to a fair in a neighboring town. I never saw the carriage do better than it did for about ten miles through the beautiful scenery along the Connecticut River. Suddenly all my interest in the beauties of nature ceased, and with sundry skips, the engine stopped dead.

I went over the wiring carefully, and took out the spark plug, but no spark; tested the batteries, found the voltage all right. Pushed the vehicle off the road and into the shade, just to gain time to think, tried the spark again, and got a good one. Started the engine, and got back into the road, and incidentally into the sun, when another skip, and another stop. Took out the spark plug, no spark; made a few oral observations, there being no one in earshot. Took off my coat, and turned the crank about nine hundred and ninety-nine times without a response from the engine. Fearing I would develop a hot box, I discontinued that form of motor improvement for the time being. In short, I worked all that day with the same results—nothing.

Went home that night by four-legged horse power. Came back the next morning with a man, and together he and I fooled away another day. Same result—nothing. When it got dark enough we hitched the old horse on and hauled that automobile home. Somehow it leaked out that we were coming, per hay motor, and several friends met me in the village square with an ovation that was entirely uncalled for. This two days' experience was a severe shock to my

moral as well as motor growth. The third day, however, I found the cause of my troubles. The jump-spark coil had a break in the inside wiring, where two wires were joined together in the coil. These had come apart so that the vibrations of the engine would occasionally bring them in contact. This was when I would get a spark, but the constant vibration would soon throw them apart again, and that was when I didn't get a spark. The next day when everything was going lovely once more I went down with the automobile and drew back the horse wagon, just to show the farmers along the route that this hauling busi-



A Russian Motor
Sleigh

ness was a reciprocal one in which the automobile asked from the horse no aid it could not return.

Frankly, I have not had the success with the jump spark that I would like, doubtless, on account of my lack of grey matter, but from my experience with both systems, I would much prefer a simple form of touch spark, and current furnished from a dynamo, with a small storage battery in circuit. This arrangement is simpler to maintain, and can be put in shape more quickly than the other when it gets out of order on the road. If tripped by a spiral cam, you can also get the automatic or manual advancement or retarding of the spark.

The carburettor was the next thing which taught me mental

humility. Up here in the primeval forests we get from the local dealers as gasoline any liquid that has ever in the course of its existence been anywhere near a gasoline barrel, with the very natural result the amount of water and other extras in the fluid give no end of trouble where float feed is used. Eventually I found I had less trouble if I used a hybrid device, which was a cross between an atomizer and a carburettor, wherein a constant level was maintained by a pump of comparatively large capacity. With this arrangement I can burn anything, even the backwoods fluid the sellers call "gasoline" and the buyers call — well, no matter what.

I have only run up against one condition with this device of mine which gave me trouble and here it is. Being called in haste to a town about 16 miles away, I did not stop to fill the gasoline tank from my own supply. So upon arrival at my destination, my tank being nearly emptied by the run over, I bought 5 gallons of so-called "engine gasoline," and with the stuff filled the tank. It was a bitter cold day, with a strong wind blowing, and everything frozen hard, but as I had taken the precaution to fill the water in the cooler full of calcium chloride, I let the vehicle stand exposed to the weather for 3 hours, while I completed the business which was the cause of my journey. When I started at about 6 o'clock in the evening for home, the motor wheezed and fussed considerably, but went along after a fashion for about 3 miles, then stopped. I got out and tried the spark, it was O. K., looked into the carburettor, and found it almost empty, tried the pump, and found it would deliver nothing but air, disconnected the supply pipe, and found it was frozen full of ice. The thermometer was steadily dropping, and my courage and temperature were racing with the thermometer for the zero point.

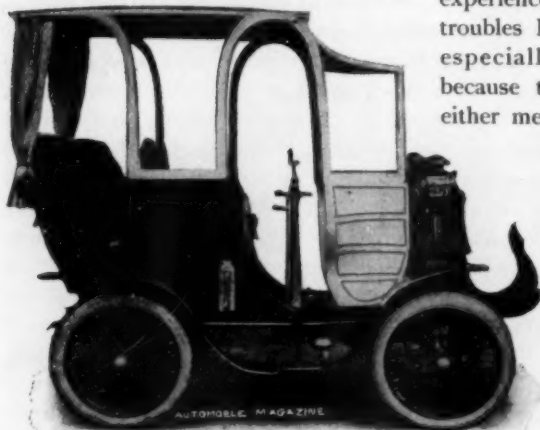
I finally thawed out the pipes over a carriage lamp. It was a delightful experience. I never remember but one other occasion, and that was last winter when I was trying in vain to get warm in a hotel in England, that the lurid fires of the nether world seemed so enticing as they did on that pipe-thawing job. But now the pipe was clear, I was unable to get any gasoline from the tank, although the gauge showed the tank was nearly full. Finally I got desperate, punched a hole in the top of the tank, and found about an inch of solid ice completely covering the bottom of the tank. We took turns in thawing that supply pipe, and breaking the ice in the bottom of the tank with a stick thrust through the hole we had made, until 2 o'clock in the morning, when we finally got home. If any one had offered

me a recipe that would keep country (Vermont) gasoline from freezing, I would have paid high for it that night.

The only thing that I have found radically wrong with my gasoline carriage has been the exhaust cam, which did not allow the valve to open soon enough, and permitted it to close too quickly on the stroke. By changing this I made a great difference in the ability of the engine. There was also a weak place in the design of the axle which caused it to break. This, with the trouble I have had with the exhaust valve stem unscrewing, so that the cam will not allow it to seat, completes the list of the shady side of my automobiling

experiences. The last two troubles I have named are especially exasperating, because the appearance of either means a long delay usually, where farming tools and free advice abound, but nothing else.

I am often asked as to the cost of repairs and maintenance. This always seems to me a good deal like asking a fellow



An English Idea for a Removable Top

how much it costs him to live? or what his doctor's bills are? since it all depends upon where and how he lives. On these hilly Vermont roads I figure that I average about fifteen miles on a gallon of gasoline. The cash cost of maintenance has been with me exceedingly small, because I have a man from my factory who takes care of the vehicle, and keeps it in running order for the use he is allowed to make of it when I have no need of it. He also does the repairing, which has for the past season only been the changing of the clutches and a new axle and brake castings, which all told have not cost me in money over \$10. I have doubtless spent between two and three hundred dollars in experimenting and trying to perfect some devices which I thought would be improvements in the vehicle, but which were *not* in any way

necessary to either its maintenance or its operation. I have had no tire troubles excepting the collapsing of the inner tube of one of the rear tires, which was replaced by a new tire from the factory free of charge. I think the way I am situated one hundred dollars would cover all my expenditures for maintenance and repairs for another season, providing I did not have a collision with something, or did not get so far from home as to be at the tender mercies of city repair shops.

When I placed the order for my present carriage a member of the firm wrote that he was glad to have it go into the hands of a manufacturer. I replied that it was the worst possible place he could put the vehicle, as it was all I could do to keep from tinkering with it. I have, at the cost of some effort, refrained from giving you all the joys and sorrows that came to me in connection with said improvements. They are not worth much to those who build automobiles, but they have been a great aid to character building, and while I think I know something more about a gasoline engine than I once did, I can with equal certainty, take my oath that there are a great many things about the engine that I don't know, though I certainly thought I did at the start. Neither have I gone into detail regarding the endless source of pleasure that the conveyance as a whole has been to me, or the peculiar joys that have been mine in connection with its use. The enjoyment of the first Boston trip has been repeated many times since, with just variations enough to make it intensely interesting. As to this particular make of vehicle which I was fortunate enough to select, after Summering and Wintering it, I can swear by it and by the men who built it too, and the vehicle is not for sale either.

I send you herewith a couple of pictures which will show you how I am endeavoring to inculcate in my family an early knowledge of the automobile. If enthusiasm and anxiety to learn count for anything, I feel confident that I have in training the finest batch of automobile experts Vermont or anywhere else has ever seen, though it will be some time yet before the young man you see in the picture will be allowed to pilot a big racer. He's like his father, though, in being perfectly willing to undertake the job even now.

I am not fortunate enough to be the possessor of a degree given by any institution, so that I cannot follow my name with even an M. E. or an M. D., but in view of all the many fool things I have done with an automobile, I feel that it is no more than fair to the motor vehicle industry that my name should be followed by D. F. in large letters.

Part of a University Education

NO common school education can any longer be considered complete unless it supplies those it seeks to educate with at least a fair working knowledge of the power, possibility, etc., of the motor vehicle.

This being true of even a common school, how very much more must it be true of a university? Evidently some such idea as this possesses Messrs. Clark Fosdick, George C. Cannon, P. A. Proal and



R. E. Hammond, students in the Lawrence Scientific School, Harvard University.

These young men are not merely wealthy owners of automobiles, the construction, equipment and designing of which they are content to remain entirely ignorant of. To the contrary the young scientists are making a very close study of the automobile in all its phases. To enable them to do this in the most thorough fashion the quartet own the house in Cambridge, Mass., here shown, which contains an elab-

orate workshop for building and repairing vehicles, besides every convenience for any social affairs the owners may care to indulge in.

The quartet disclaim any pretence of representing the university, and, far from being a club, the members prefer to be known only as individuals, running and looking after the six or more vehicles they jointly own for their instruction and amusement solely. By some they have been called the Harvard Automobile Club. This name, they say, is one given them by others and not by themselves. There are other men in Harvard who own automobiles, and who at some future time perhaps may join the four and from this a club may grow, but there is nothing of the kind in the present arrangement.

The quarters of the four men are in a good sized building, having ample room for the vehicles on the ground floor, above which is a well equipped workshop and a small parlor. Not content with the vehicles they already own, the young experts are building another which they hope will be very much faster than any which they now own. The new racer will be of 20 H. P., and will be built according to original ideas conceived by the young scientists.

The lines along which this unique association accomplishes the ends for which primarily it was formed are ideal. If one of the members conceives an improvement of a motor vehicle or any portion thereof which seems to him to be feasible, after thinking the idea over and working it out theoretically, he proceeds to put it into a concrete form. When the new idea is finally ready for testing the best of the unimproved vehicles remaining is brought out and pitted against the one equipped with the new idea. In these tests, friendly though they be, there are absolutely no favors shown the new idea. The sole reason for each test is to see whether the new is an improvement on the old. If the tests show merit in the young inventor's ideas his partners then turn to and aid him in perfecting them.

Faults as they develop are noted, and efforts are made to overcome them. Proceeding along these lines the young engineers have succeeded in turning out some improved vehicles which have an unusual amount of merit. One of these vehicles, a steamer, belonging to this quartet, showed considerable speed at the Providence races last fall, easily winning in its class.

The history of the evolution of the practical automobile shows that the end of one inventor's failure is often the beginning of another man's success.

The Mastodon of Mechanical Vehicles

CONTRAST this American made and used 50 H. P. traction engine and wagon train with the winners of the recent British military trials appearing elsewhere in this issue. While the American and the British models are radically different, because of the difference for which their use is intended, they are each a distinct advance in the solution of the problem of commercial mechanical traction.

The vehicle here shown is made by the Best Manufacturing Co. of San Leandro, Cal., and was built for employment in the lumber



regions where roads are more noticeable through their absence than through their presence. The tractor here shown draws the four wagons, each loaded with 12,000 feet of lumber, a total of 48,000, over any and all sorts of roads, up and down all kinds of grades at an average speed of three miles per hour. Understand it is not said that this can be done ; it has been done for more than a dozen years and is being done to-day.

This engine and wagon train have been especially developed to meet conditions as they are, not as they may or should be. All over the Pacific Coast these road engines and trains are to be met with, and invariably they have supplanted animal traction in places where the absence of all roads seemed to make the employment of other than animal traction a physical impossibility.

The engine is equipped with a modification of the vertical and horizontal boiler, giving 480 feet of heating surface. Either wood, coal or oil can be used for fuel. Attached to the boiler are steel bed-plates, 6 x 1 inch, which form the main frame for all the machinery. To the bed-plates are attached duplex or twin engines geared to the main inner-cogged periphery of the two large drive wheels. Five gears, pinions and wheels constitute the entire gearing. The height of the drive-wheels is 8 feet, with iron spokes one inch in diameter. The tires vary according to service conditions required of them, from 24 to 40 inches in width. The front or steering wheel is 5 feet high with a tire 14 inches wide. Total weight of 50 H. P. tractor, all complete, 15½ tons.

Despite the seeming clumsiness of these tractors, at the touch of the throttle lever, they will move forward or backward, an inch at a time if desired, or they will walk off with a train of wagons, carrying 40 to 50 tons of freight up and down any grades where it is practicable for teams to do the same work. Or, if required, they will roll across a plowed field, or over other ground as difficult to travel over, almost as fast as a man can run. They will go slowly down the steepest hills, climb over shrubs and logs in forest, or lift themselves up an almost perpendicular bank 18 inches or more in height. The use of an upright boiler permits these engines to ascend grades of any inclination without uncovering the crown sheet.

The following table gives a detailed estimate of cost (actual cash outlay) of running one of these 50 H. P. engines ten hours in California, hauling freight. Owing to the different prices of fuel and labor in different parts of the country, it is impossible to give an accurate cost for all sections; however, the following table will serve as an estimate on which to base such calculations:

Engineer,	\$ 4 00
Fireman,	2 50
Oil for Engine,	50
1 Ton Coal,	9 00
Wear and Tear,	2 00
Total Expense,	\$18 00

Those who talk most about what they have done in automobiling and what they expect to do, very rarely have much to tell about what they are doing in it.

Some Sparking Ills and Their Cures

By REGINALD WALES



To serve as a thoroughly comprehensive illustration ; to comprehensively portray the various road experiences with ignition ; to give some fellow sufferer an idea as to the characteristics and the manifestations of the respective imperfections of the present system of using the elusive electric spark, I have been tempted to cite cases wherein these defects and myself have both played important parts,

and to give as best I may the conditions which led to my discovery of the real cause of the trouble, and stating at the same time the methods I found satisfactory in correcting them. Since the effect of one impaired portion of the generative agency is often more or less synonymous with another, it becomes a matter of considerable complexity to discriminate correctly between the possible causes without first employing more time than could conveniently be given it by the ordinary automobile sufferer. It will also be observed there is a vein of similarity running through the entire list of descriptive cases which follow :

BROKEN BATTERY ROD

The vehicle was a well known make of explosive motor, using eight equally as well known make of fluid batteries which, up to the time in question, had shown no tendency toward exhaustion nor otherwise developed any inequality. The day was delightful, the sun being bright and warm, the air balmy and refreshing. Along rushed the vehicle at an eighteen-mile pace, just as smoothly and as nicely as could be. I was enjoying it all when, upon passing over a small obstruction, so small as to be scarcely noticeable, there was a most decided decrease in the speed, and as soon as the momentum was destroyed I found myself no longer spinning through space.

Many sad experiences in the past had made me cautious and I had for some time religiously carried with me a small but neverthe-

less, thoroughly reliable battery gauge. With this I now began making tests of the series generation. Having first made a test—using the entire number as but one factor—and ascertaining there was no current whatever emanating from the battery, I at once began testing each individual cell involved in this series and soon found one which failed to register upon the gauge. This I at once cut from the circuit and thereupon proceeded on my way without further delay. A subsequent and more careful examination showed the rod sustaining the zinc element had parted, probably from the passage over the slight obstruction noted.

BROKEN TRANSMISSION WIRE

During a pleasure jaunt my motor which, for the last several miles, had not been operating any too favorably, finally came to a dead stop. The batteries were apparently in a faultless condition—since a satisfactory flash could be elicited at their poles—yet none of this current could be induced at the ignition center, from which I inferred that whatever the defect was it must necessarily be somewhere between these two points. In accordance with this train of reasoning I made a close examination of the two transmission wires, these suggesting themselves to me as offering the greatest, or in fact the only, excuse for the derangement. That I was not far astray in this was shown by my almost immediately discovering one of the wires broken beneath the insulation. Such a break is not only unusual, but extremely difficult to locate, unless one has had considerable experience and profited by it.

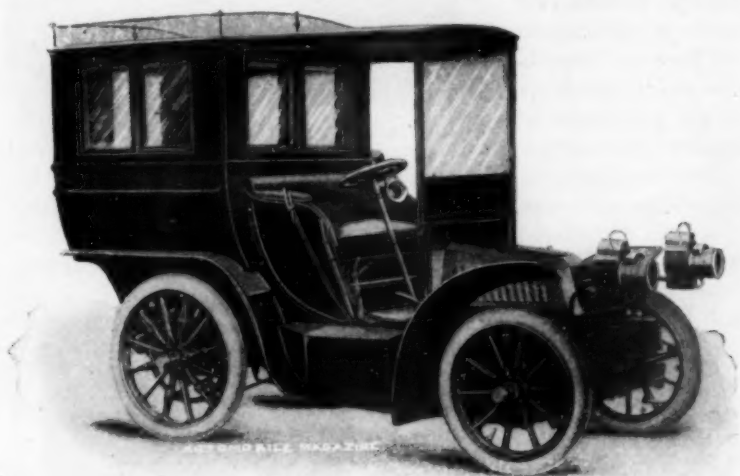
DEFECTIVE SWITCH CONNECTION

“We are too prone,” said a really very able automobilist to me recently, “to attribute all mishaps to the batteries alone. I am willing to admit, however, these are ever ready to furnish a generous measure of annoyance. I’ll break off a fragment of my experience in this direction and let you taste of it to see if you like it well enough to speculate yourself sometime. I was once making an extended tour in the State of Wisconsin and had covered four or five hundred miles without the least sign of trouble, when one day the vehicle stopped in the most unceremonious manner—my consent wasn’t forthcoming either.

“I knew mighty well ’twas no use crying over the thing, for you’ve got to expect something of the kind now and then in automobiling life, so I donned my greasy regimentals and got right down

to business. To make a long story short I spent a good half day on the thing, confining myself to the batteries, the connections, the transmission wires, the sparking device, and Heaven only knows what not, but like a blamed fool, which indeed I was, never once bethinking myself of the switch, that innocent, simple looking contrivance.

"I had grown desperate from my non-success and had gone forward to the seat to get another tool, when my eye happened—just happened mind you—to fall on that controller. Wonder if anything could be the matter there, thinks I. Hardly believe so, came second



Unloosening four set screws allows the entire cover to be taken off of this Mors, leaving it an open wagonette

thought ; just as though some one who was wanting to throw me off the track was whispering in my ear. I'll just look anyway, thinks I again—and look I did ; what d'ye think I found? Nothing else than that one wire had pulled clear out of its binding post ! ”

The narrator climaxed with an oratorical wave of his cigar and glanced at me interrogatively. I gravely allowed that dealing in this sort of calamity stock was not to my liking. The foregoing is quite sufficient, I believe, to acquaint the reader with the possibility of a defective switch connection, and I sincerely trust his experience will never be that of my friend of whom with all his ability I had really expected better things.

The North Jersey Automobile Club

PATERSON, the boasts of a club, automobile Club, State of New Jersey, date, and which is membership. The members the wealth-city, all of whom are ents of automobile

Paterson saw its three years ago, when of the proprietors of motive Works, be-user of a gasoline carriage. In a short time William H. Fletcher joined him with a steam vehicle, and after that, the rush for the new locomotion was on. In April, 1900, the number of motor vehicles in Paterson



Charles D. Cooke, Pres.

Lyons of America, the North Jersey Au-second to none in the thoroughly up to growing rapidly in club has among its iest men of the silk enthusiastic adher-road locomotion.

first automobile only Charles Cooke, one the old Cooke Loco-came the owner and



Edward T. Bell, Jr., Secretary and Treasurer

had become numerous enough to warrant the formation of a club devoted to their interests, and at a meeting held at Mr.

Cooke's house, the North Jersey club was born. There were less than a dozen charter members, but the membership has rapidly



Frederick R. Reynolds, Chairman Board of Governors

increased and the organization has grown in financial strength and in influence.

The club was organized primarily to labor for the good of automobilism and for the protection and welfare of its members, or, as more definitely stated in its by-laws: "To seek the promotion of a



William H. Fletcher, Captain

social organization or club composed in whole, or in part, of persons owning self-propelled pleasure vehicles for personal or private use. To afford a means of recording the experiences of members and others using motor vehicles or automobiles so that all may profit by them. To promote original investigation in the development of motor carriages. To co-operate in securing rational legislation and the formation of proper rules and regulations governing the use of automobiles in city and

country, and to protect the interests of owners or users of automobiles against unjust or unreasonable legislation, and to maintain the lawful rights and privileges of owners or users of all forms of self-propelled pleasure vehicles whenever and wherever such rights and privileges are menaced. To work toward the encouragement and development in this country of the automobile. To promote and encourage in all ways, the construction and maintenance of good roads, and the improving of existing highways, and generally to maintain a social club devoted to automobilism."

The club's membership is divided into four classes, viz., Honorary, Life, Active and Associate members. In the first class, which is limited to twenty-five, are at present the President of the United States, the Governor of the State of New Jersey, the Mayor of the city of Paterson and the Director of the United States Road Inquiry.

The officers of the club for this year are President, Charles D. Cooke; First Vice-President, Vernon Royle; Second Vice-President, J. Edwards Barbour; Secretary and Treasurer, Edward T. Bell, Jr., and Captain William H. Fletcher. There is also a board of governors composed of four members, in whom the general management and control of the affairs, funds and property of the club are vested. These are at present Frederick R. Reynolds, William H. Fletcher, Robert Gaede and Heber Royle.

Trying to Supplant the Mule

AS far back as 1868 the Germans saw the advantages of a military transport service which would not have its efficiency and usefulness limited by the power of an animal. Lacking at that time establishments of their own where such vehicles could be built, orders were placed in England for them, and later on, 1870, these British built German war transports did yeoman service against France.

Despite this proof of what could be accomplished by the mechanical supplantment of the horse, so voluminous was the red tape encircling the British war office, that it was not until nearly 35 years later that a sufficient amount of the tape was removed to permit of the British Government endeavoring to secure something of the kind for its own army.

Perhaps even a longer time would have been necessary had not such small items of expense as the importing from the United States alone of horses and mules to the value of \$13,483,052 during the last two years for use in South African war operations, hastened even British official action in an effort to find some less expensive and more satisfactory method of army transport. To procure this the War Office announced that it would award \$5,000 in cash prizes among the winners of a series of trials which would be based upon as near service conditions as it was possible to make them.

Eleven vehicles accepted the conditions; six of them failed to appear, and of the five remaining only three successfully overcame the obstacles, natural and otherwise, which were placed in their way.

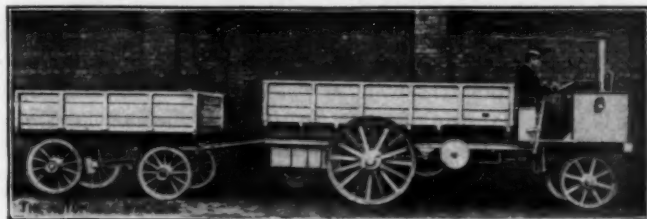
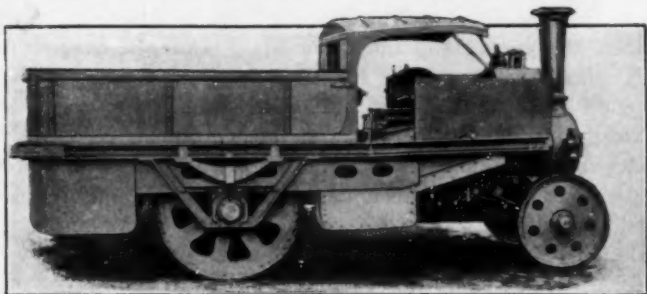
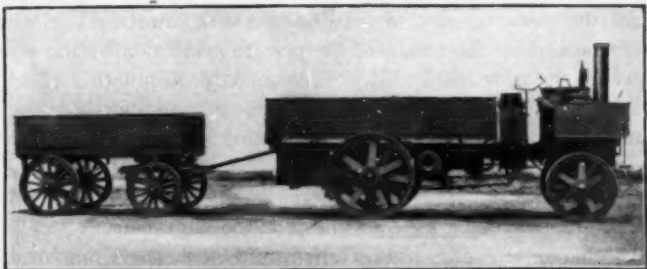
The prize winners shown in the accompanying illustration were awarded cash prizes of \$2,500, \$1,250 and \$500 respectively, while the first and second were purchased by the British government and will be at once shipped to South Africa for use by the English army there.

From the *Automotor Journal's* very complete account of the trials the following interesting details are taken:

"There is a somewhat curious discrepancy between the performances of the two most successful competing vehicles during the trials, and the ultimate awards of the Judges' Committee. The Foden, without any question, was the most successful in surmounting all the tests imposed, with the exception of the hidden ditch which lay in its course much like the proverbial snake in the grass, and into



Prize Winners
In War Office Tests.



1. Thornycroft Steam Lorry
2. Edwin Foden & Co. Steam Lorry
3. Straker Steam Vehicle Co. Lorry

which it fell owing to the fact that it was as usual heading the field. We do not know whether this want of foresight on the part of the Foden was charged against it, the requirements of military authorities being proverbially exacting, or whether the apparent discrepancies between the performances of the Foden and the award made to it are to be explained by the results of the private inspection by the officials with which the tests concluded. We can only assume that the latter is the correct explanation. But in that case, and more particularly as the Foden Company by returning the second prize, evidently consider themselves as unjustly treated, it is to be hoped that the British War Office will see its way to publishing a full and comprehensive report of such a kind as will clear the matter up."

Another interesting feature connected with the Competition is the comparative failure of the Thornycroft vehicle, which had adopted a novel principle of construction, specially designed to produce a different distribution of weight from that usually adopted, the whole weight of the engine and the boiler being arranged over the rear driving wheels, which greatly exceeded the front steering wheels in diameter. The main object of this arrangement was to ensure sufficient weight being on the driving wheels when running unloaded over difficult ground or uphill. Incidentally it was also hoped that greater power of getting out of difficulties would also be conferred by this method of building. That the principle, as far as running up hill unloaded is concerned, was correct enough, is indicated by the behavior of electric vehicles of the Krieger type, in which most of the weight being on the rear wheels, the front wheels occasionally skid on a greasy incline.

The construction, however, in the present instance, was not effective in getting out of difficulties, but seemed rather to increase the tendency of the vehicle to remain ensconced in a hole once it got into one. In addition, this vehicle was designed to consume either oil or coke, and, though both were tried, neither was thoroughly satisfactory. It is evident that a boiler should be designed for either one fuel or the other. It is not likely that in small boilers either can be employed indiscriminately without loss of efficiency.

With regard to the actual trial conditions, the severe conditions thereof are worthy of detail. During the first few days of the Trials the weather was clear and cold, with the road surfaces firm, but inclined to be slippery. This condition of affairs was promptly succeeded by rains and storms which made the roads extremely

heavy; in fact the general conditions were as severe as they could possibly be. Loose macadam was encountered occasionally, but an ordinary well-worn macadam was the rule. The country through which the test routes lay was decidedly hilly, some severe gradients being encountered on each run.

The hill at Puttenham, for example, was short but very steep, the average gradient being about one in seven over the 400 yards under observation. The surface was a fair macadam worn somewhat by rushing water.

The cross-country test was conducted over a tract of land which requires a special description. The course itself was simply a sandy tract, and was approached along certain very rough roads leading out of the main road. The vehicles arrived, all with trailers, at an open space, where they were lined up. Trailers were here detached, and each vehicle, with a 3-ton load, descended an extremely steep grade of sandy surface, and crossed a marsh and stream, climbed a steep hill, and lined up, after having gone through the turning trial. This stage completed, they proceeded along a rough sandy tract, crossed a bog, descended a steep grade, and crossed a very marshy stream. A stiff hill was then encountered, and a second bog crossed; the track then joined a fairly good road, and the vehicles proceeded to the starting point. The first round of the tests was then concluded. The second was over the same course, but in this each vehicle hauled its trailer with a 2-ton load, making 5 tons total load. Arrived at the marsh, traversing paddles were attached to the driving wheels of each vehicle, and they were sent across about 400 yards of deep and sticky peat bog. On reaching the road the paddles were detached, and the vehicles returned to the depot. This manœuvre brought the Trials to a conclusion.

Over the Good-Intention Paved Highway

"This scorching business must be stopped," said the Queens County magistrate, "Mr. Keendervilt, you are fined \$50."

"All right, sir, here it is, but you may be a scorcher yourself some day."

"Never, so long as I live."

"I'll not dispute that point," observed the prisoner, as he escaped before the significance of his reply had percolated through the law-giver's brain.

Millions for Macadam Roads, May Be

POSSESSED of the singularly appropriate name of Bond, New York's State Engineer and Surveyor, Edward A. Bond, showed he was alive to all of the possibilities of his name by addressing the State Good Roads convention, held at Albany on January 29, in explanation of the proposition he had made in his annual report to have New York State issue \$10,000,000 worth of bonds for immediate improvement of highways on an extensive scale. Engineer Bond had a large map on which he showed members of the convention his scheme for a system of good roads throughout the State.

Mr. Bond favored the State issuing bonds to the amount of \$10,000,000, bearing 3 per cent. interest and payable in seventeen years, with the provision for annual payments by the State and counties to a sinking fund sufficient to meet both principal and interest within the seventeen years. Mr. Bond said that an expenditure of \$10,000,000 would construct upward of 1,250 miles of improved macadam roads throughout the State.

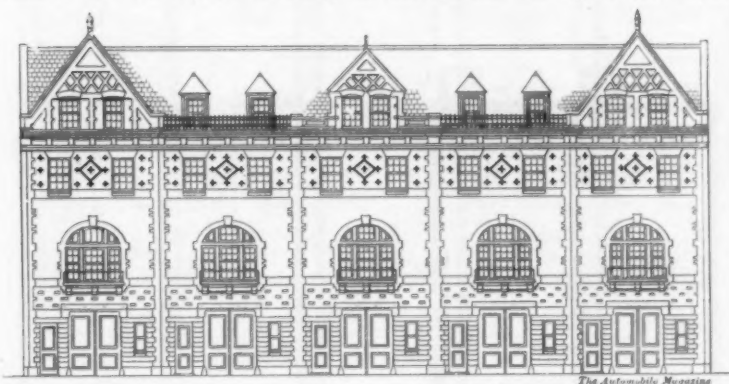
The convention promptly voted in favor of the proposition that the State should bond itself for \$20,000,000 for road construction in accordance with the Higbie-Armstrong act, the bonds to bear 3 per cent. interest and to run for seventeen years. If this scheme is adopted, according to figures prepared by State Engineer Bond, the State tax would be less than six cents on \$1,000 valuation, and if the money is spent in the various counties in proportion to their assessed valuation, it would be 17 cents on \$1,000 for the county tax, making the total tax, State and county, 23 cents on \$1,000; that is, if the tax was levied on this basis, in seventeen years both principal and interest of the bonds would be paid. Under the Higbie-Armstrong act, 50 per cent., or \$10,000,000 of the bonds would be a burden upon the State, while the counties would meet 35 per cent. and the towns 15 per cent.

The proposition which was suggested by State Engineer Bond was for the State to bond itself for \$10,000,000, half of which would come on the State. He submitted to the convention a map showing 2,800 miles of road, half of which, he declared, could be improved for \$10,000,000. The convention concluded that half of the suggested improvement was not enough to ask for and doubled the amount of the proposed bond issue.

Solving the Storage Problem

TO purchase a motor vehicle is not nearly so difficult as to properly house it after it is purchased. Until now the automobile has been the horse marine of carriagedom, and the former owner of the white elephant has been enabled to look at the present owner of the automobile with considerable satisfaction, appreciating full well the unpleasantness of his predicament.

So long as the automobile was looked upon only as a "horseless" vehicle its attempted housing in the places set apart for horse

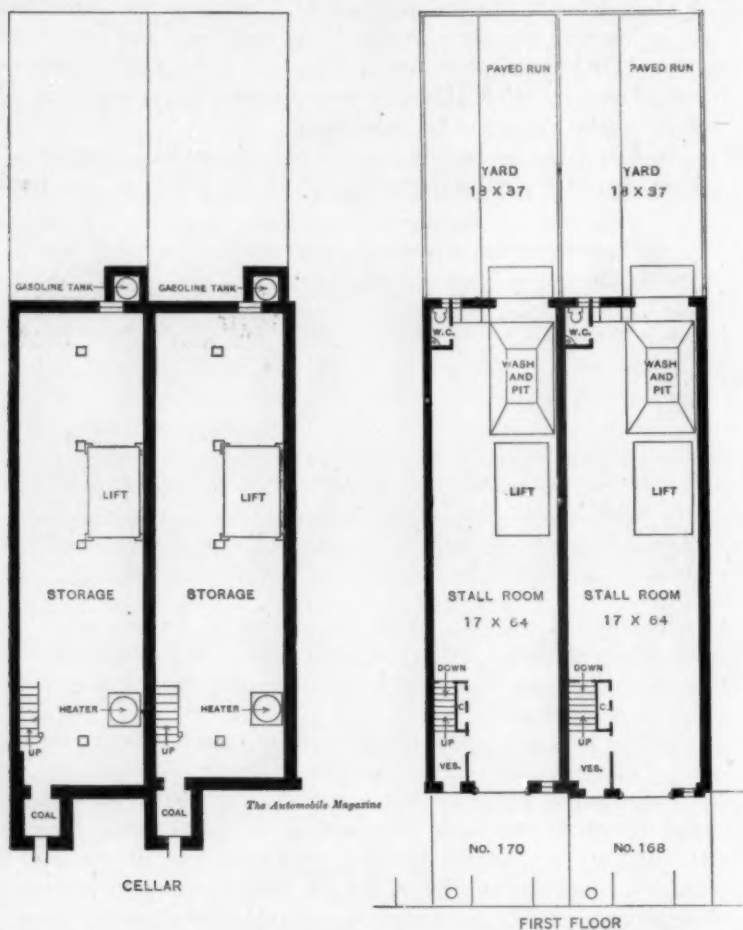


vehicles was but natural. With the passing of the day when the mechanically propelled carriage is either referred to or regarded as a "horseless" one, causes the need for some place especially constructed to house and care for it.

Stables built and used for horses and carriages had been tried and found badly wanting. The radically different demands of the mechanical motor and of the hay one made it impossible to properly attend to both in the same place and at the same time. Storage establishments temporarily afforded some relief, but the owner of a valuable automobile naturally objected to leaving so expensive a piece of property in a public place where it was subject to all sorts of danger at the hands of curious and ignorant persons. Nothing, therefore remained but that an entirely new form of building should be designed and built.

Recognizing this condition of affairs, and believing the time had

come when the man who had invested a small fortune in motor vehicles no longer cared to have his conveyances or himself subject to the inconvenience and annoyance of a public storage establishment. Messrs. Hill and Stout, well known New York architects, have

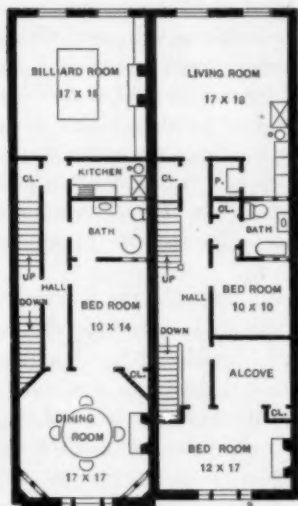


planned and are now erecting on East Seventy-Fifth Street in this city, five automobile establishments which mark the beginning of a new era in the story of the automobile's progress. From the moment these buildings are erected the motor vehicle achieves a direct

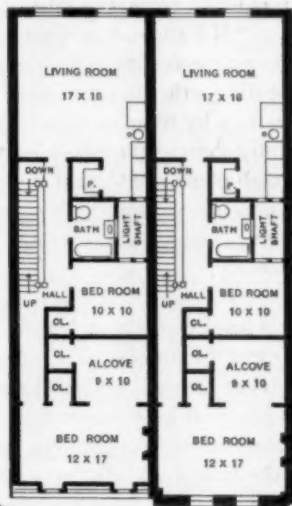
recognition of its individuality which for once and for all removes it from further treatment or consideration as a "horseless" vehicle.

From the drawings of the architects here shown, an accurate idea can be gained of how closely the needs of the new vehicle and the comfort of its owner and attendants have been studied out and provided for by Messrs. Hill and Stout.

Mr. Edmund C. Stout in speaking of these plans admitted that they had by some ultra conservatives been considered in advance of the times, but he believed them to be only the recognition of an



SECOND FLOOR

The Automobile Magazine

THIRD FLOOR

unsatisfied demand. Proceeding upon that idea Mr. Stout said he had met with sufficient encouragement to assure him that his idea was right.

"It was a much easier thing for me to plan these buildings than it was to give them a proper designation," said Mr. Stout, discussing the new establishments. "I was endeavoring to create something to take the place of a stable and when I had succeeded in doing this I could find no name for the substitute except 'stable.' This was unfortunate, but the designing of buildings, not the creation of words, is my profession, and so I made the best of an unfortunate condition of affairs and for the present these buildings will be 'automobile stables.'"

"In planning these buildings you will see that I have recognized how entirely different from a stable is the use to which they are to be put, as well as the possibilities offered thereby for the comfort of the owner and of his employees. I have in a way sought to give the automobile owner a building which is a combination of club and storage place. While this is perfectly feasible with the automobile owing to the cleanliness and absence of all noises and odors, the same is not absolutely possible where horses are to be cared for, hence a still further objection to calling these buildings 'stables,' which conveys an entirely erroneous idea of both their intent and their conveniences.

"If I am not entirely mistaken these buildings will meet with a prompt recognition on the part of automobile owners, and if I am not still further in error more than one of them will be used as bachelor quarters by their owners. In fact three or four motor vehicle owners jointly sharing the expense of one of these buildings on some sort of a club plan, would find the cost of doing so less than any other plan of housing and caring for their conveyances, while the satisfaction of having one's own establishment needs no comment as to its desirability.

"Coming to the plans in detail you will note that the first floor, on a level with the sidewalk, has ample room for at least five vehicles of even the largest size. A lift is provided capable of handling the heaviest vehicle and of lowering it easily and safely to the cellar, which, with its concrete floor and perfect ventilation, can be used as a supplementary store-room, thus greatly increasing the storage capacity of the building. At the rear of the first floor is the repair pit and washing place where the vehicle can be cleaned, repaired and overhauled in thorough fashion. Adjacent to the pit is a workbench where every facility for making repairs can be provided. Close at hand will be the charging apparatus so that the needs of electric vehicles can be conveniently attended to. Robe-poles, and closets for great coats, caps, gloves and such like, are located near the door, and at the foot of the stairs leading to upper floors.

"The plans of the second floor show two arrangements, either of which the owner can suit himself in choosing. If the owner wants to secure this part of the building for himself, and I can hardly conceive of his not wanting to do so, he will find at the rear a room about 17 feet square with a fire-place on one side, lighted by two large windows, suitable for a billiard room. At the front of the building is an octagonal room about 17 feet in diameter, with a large fire-place on

one side and a wide window on the street. This room may be used as a sitting or dining room. Off of it is an alcove of generous proportions in which a bed or lounge can be placed. Next to the alcove is a bath room, fitted with all the conveniences, including a shower bath.

"Next to the bath room is a small compactly arranged kitchen in which suppers or light meals may be prepared. A wide hall connects the dining room in the front with the billiard room in the rear. The entire suite is shut off from the stairs that continue on up to the chauffeurs' apartments above. These consist on the third floor of a large living room with an alcove in which is the gas range, sink, washtubs, pantry closet, etc. Three bed rooms and a bath complete the arrangement, all of which is thoroughly lighted and ventilated.

"The fourth story has two bed rooms in the rear and a front room larger than any other in the building, with a fire-place and generous store room or closet opening off of it, which could be used as a bed room. Another large closet or store room opens from the hall. This floor, as well as the third, could be used as living quarters for the chauffeur or machinist, or for storage or spare bedrooms or for any other purpose that odd rooms in a house would ordinarily be used for. The individual ideas of each owner can thus be accommodated. As a suggestion a fencing or boxing room with a small gymnasium could very nicely find lodgment here.

"While these plans are the result of considerable thought and of numerous consultations with those most likely to use them, I do not claim them to be perfect, they are a good start in the right direction, that's all. I know they are far away in advance of any other buildings used for the purpose they are to be built for, and as such I am not, I think, unduly proud of them."

The facade of the building is in the modern French style of architecture, the effect being produced by a treatment of light red brick, alternating with black brick in cornices for the first story. Black brick are also carried up the sides of each building, forming quoins, belt courses and cornices. They are also used in the panels between the windows of the third story, forming patterns such as are used in the best types of this style.

The five buildings are each separate and distinct, yet are treated as a whole; the two end buildings being carried up with gables, the center one having a large central brick dormer, the other two being treated with metal dormers and an ornamental iron railing carried along the cornices.

A Fable

A RICH Automobile Promoter, being on his Way to close a stock company Deal that would net him \$50,000, dropped a Nickel just as he was about to step on the last Train that would get him to his Destination in time. He paused, and as the Gates were shut and the train passed on he chased the rollicking Nickel along the Platform, and at length he recovered it.

"How now?" said a Friend as the Rich Man pocketed the Nickel and viewed with Equanimity the departing Train. "You have saved a Nickel, but how about that Deal?"

Then said the Rich Man: "It has been a Principle of my Life to lose nothing that I have gained. Hence my solicitude about the Nickel. The Deal whereby I was to sell the patent rights of that carburetterless carburetter was not Consummated; therefore the \$50,000 was not yet mine. I have not lost it, and I shall not worry about it, but if I had let the Nickel escape me I should have passed a Sleepless Night."

This fable teaches what a liar the author of it must be.

Even Game Thieves Use Them

To some people in France a new and harassing terror has come with the automobile. It is well known that all kinds of winged game are carefully preserved and protected from poachers by landed proprietors there, and great expense is incurred in patrolling the woods at night to prevent depredations by that class of people who like to possess themselves of other people's property. Now the automobile is being operated in some places by poachers with wholesale results. They take a motor quietly along the highway to some secluded wood and put a peculiar form of searchlight into operation. The birds are attracted by the glare of light and approach it to examine the unusual phenomenon. Nets are then set to capture the game and the enterprising poachers quickly collect a rich booty and rush off at a pace that defies the game keepers to follow with any chance of capture.

One of the Tricks It Has

"It is perfectly wonderful how suddenly you can stop a motor vehicle."

"Isn't it? I was twenty miles from home and a repair shop the other day and mine stopped so suddenly I had to walk home."

Clothes for Master and Man

IT was the misfortune of the late Flora McFlimsey to have nothing to wear ; it is ill fortune of the automobilist to have too much to wear. If anyone can tell the perplexed driver or user of a motor vehicle what is the correct costume for him to don the informant will be hailed as a savior. As the case now stands the costume question is largely one of personal election and the election, as a rule, has not been creditable to the electors. If there can be any more non-descript, hybrid, patch-work looking equipment than the automobilist affects in his costuming, it is not known in the category of sport.

Even the Englishman, the man who has always been correct in his designing of suitable sporting costumes, has lamentably failed in his efforts to provide a serviceable, decent looking outfit for the automobilist.

Take the illustrations herewith as samples of English effort. There may be comfort in that leather suit, but surely no one can claim that



there is any beauty. The cap, too, may serve



as a satisfactory head covering in either of the two shapes to which it is convertible, but certainly there is an informality, to put it mildly, about the affair which must make the wearer of it feel like he was his own hostler. The leather lap apron, of course, is no more for the automobilist than it is for the driver, and it is a convenience to both. So much for British ideas ; now for American ones.

Paul Frazier, who is an authority on what is proper in men's dress, holds forth in the *Men's Magazine* in favor of the leather costume, saying the owner when guiding his own vehicle should wear a double-breasted sack coat, buttoned up to the neck. Mr. Frazier says :

"An important point in this leather coat is the lining. For present wear this should be of very stout flannel. It may be a bright red or a plaid. Automobilists are disposed to favor the black leather rather than the tan or cream colored coats, as the first named is more serviceable, as it does not soil so easily.

"Wind cuffs are not necessary because gauntlets are worn. I prefer, however, the plain gloves, with separate gauntlets. In color they should match the coat. The trousers are made of the same material as the coat. They are so full that, if desired, they may be drawn over an ordinary pair of trousers; in fact, some chauffeurs regard the leather outfit as a set of overalls. In very severe weather or in swift racing the wind cuts like razors and warmth is a very important consideration. So the disposition under such circumstances, unless a man be remarkably vigorous, is to dress very warmly as to underwear and outer clothing, and then to pull the leather coat and trousers over all.

"The headwear is the conventional cap, made of leather and set low on the head; for speeding, a cap with any height or made of a light material would simply be blown away. The peak of the cap must come down as low as possible. Rushing a motor vehicle gives one the idea that he is riding on the cowcatcher of a locomotive, so that whatever is worn should be substantial and calculated to be warm.

"Quite interesting is the automobile livery. The coat consists of a cloth in the color to match the regular livery of the family, *i. e.*, blue, green, claret, etc. It is the regular livery cloth. These suits are also made of whipcords in tans, browns, and Oxford shades, suggesting a groom's undress livery. The coat is cut single breasted, buttons to the neck and may have either the military standing or box collar. The trousers should be of the same material as the coat. They are now cut wider than the regular undress livery trousers. They are ornamented with metal buttons. The caps match the suits whether made from whipcords or livery cloth. A leather cap is however, good form. The owner's crest or monogram may be put on the cap and it may also be worked on the collar in gold or silver, according to the buttons used.

"The automobile livery overcoat is cut very nearly in the same manner as the coachman's great coat. It presents pretty much the same appearance, but instead of being shaped in, it is cut with a full back and has a half belt at the waist line, which is drawn in slightly,

giving it a creased effect in the back. This garment is made of box cloth, which is a very heavy, stiff fabric, impervious to the wind.

"Such in general are the proper things to wear for automobiling. A few details may be interesting: Caps may be of tan or dark blue leather. There is the storm cap in black leather, with protectors for the ears. Besides the coat and trousers of leather mentioned above there are made for the road tan leather waistcoats heavily lined with wool. Capes are also worn. These are in black mackintosh cloth and have detachable sleeves. Suitable gloves are of various kinds. These are black and tan chevrettes, tans with black palms, gray castors, and black rubber.

"The French suit is liked by many. It consists of blouse and trousers, the latter being very full and fastened at the ankle. The material is a waterproof cloth, light in weight and a sort of dust color."

Coonskins are the furs used chiefly by those automobilists who come the nearest to knowing what is the proper thing to wear. Coon pelts are a comparatively inexpensive fur, warm and attractive in appearance. A first-class manufacturer makes them up of matched furs, beautiful dark stripes, and enough yellow showing to give rich shades to the fur, and while there is a trifle more expense in these they are sufficiently attractive to make worth while the difference in cost.

Coat, long and short, trousers and, when they are used, the carriage robes are all made of coonskins. Woman's automobile coats are also made of the same fur. Women will be obliged to use the coonskin robe for some time to come if they still desire to have things that match, for no special combination garment has as yet been provided for them. They wear the same hoods as will be worn by the men with their new coonskin garment, the regular Eskimo hood, with a short cape and turning back off the face. These hoods are soft and fit themselves to the heads upon which they are worn, and those for men and women will differ little if any in size. The hoods are of especially finely matched skins, and are particularly attractive.

Long coats in coonskin for men cost from \$50 to \$125, short ones \$55, and jackets for women are the same price. Handsome coonskin robes range in price from \$50 to \$85. Complete suits of furs which of course include trousers thereof, cost about \$100.

Single Track Tricycle Coming

FROM its inception as a manumotive vehicle the tricycle has never been either popular, successful, or serviceable, and when it was fitted with a motor for power it became worse instead of better. There is, however, something in the idea of the light three-wheel vehicle which is attractive, and if the inherent weaknesses of the triangular wheel-base can be overcome, the type would become a popular one. An Englishman, W. Slinger, of Settle, will shortly put upon the market an entirely new form of motor tricycle in which the wheels will be placed in single file. By this means the maker promises to lessen vibration, eliminate side-slips, secure steady steering, and above all, have a vehicle which will stand unsupported.

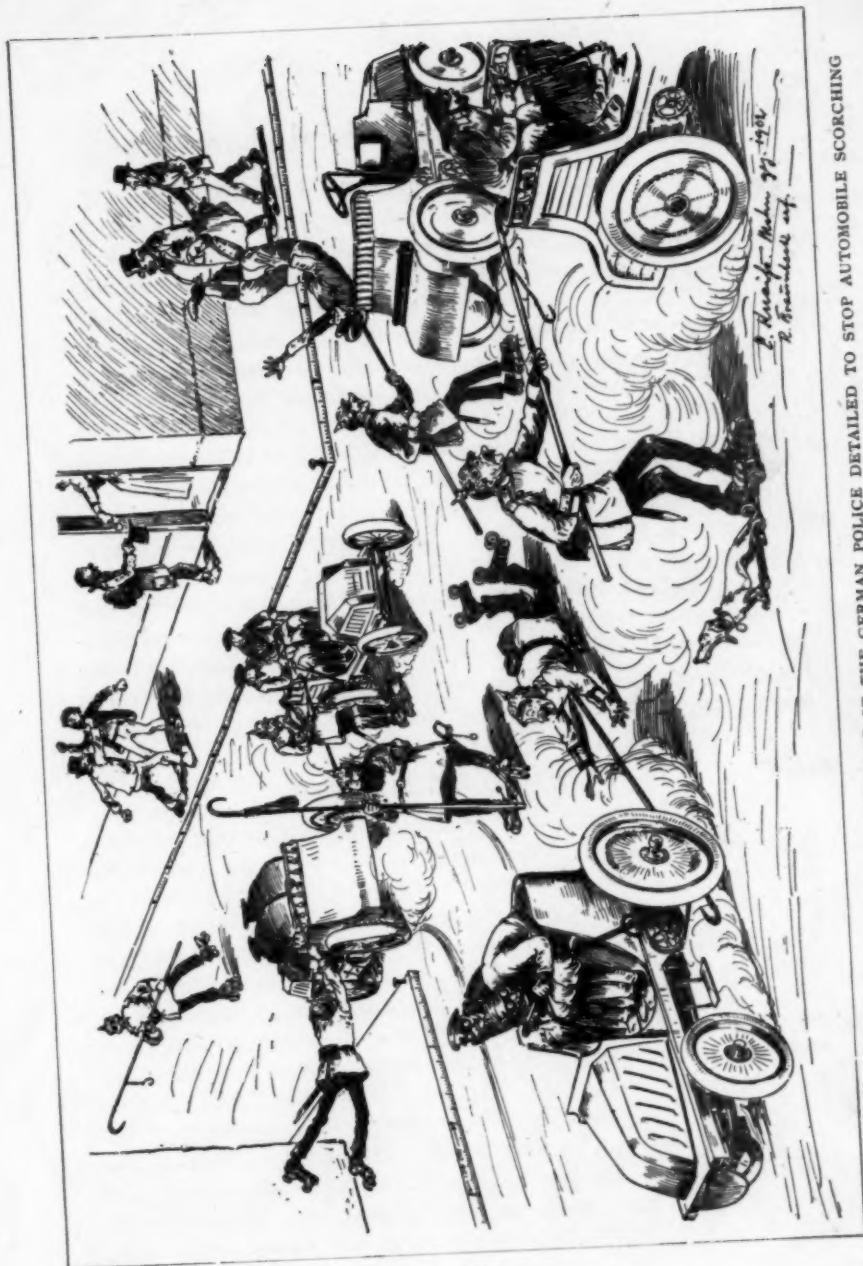
Only a Few Years Hence

"The charge against you," said the magistrate,
"Is that of walking at a furious rate.
And it is further charged that you, at night,
Have the streets promenaded without a light.
Four miles an hour on the public way.
Is dangerous speed. What have you to say?"

"Your honor," the prisoner said, "I went
Out for a walk and my oil was spent ;
But this motor officer would tell
That I did not neglect to ring my bell."

"Sir," said the magistrate, in accents gruff,
"To ring your bell is not enough.
We are resolved, let me repeat,
To protect automobiles on the public street.
Only last week was a driver hurt
By an unlighted child who did a spurt.
The driver was injured ; his ride destroyed,
And the automobile club was much annoyed.
Five dollars I fine you ; your defence is vain.
You must never walk without a light again."

Perhaps in the case of the automobile's rival, the hay motored conveyance, it may be the wagon tongue that often makes the wheels tired.



DAS SCHNAUFERL'S IDEA OF THE UNHAPPY LOT OF THE GERMAN POLICE DETAILED TO STOP AUTOMOBILE SCORCHING

Marine Automobile Establishments

FOR quite some time now no really first-class apartment or dwelling house in New York has been planned without accommodations being provided in it for the storage and care of automobiles. It remained for William Gillette, the actor and playwright, however, to first set the example of providing automobile accommodations afloat, and on his houseboat "Aunt Polly" he has a very complete automobile room wherein two motor vehicles are carried, cleaned and cared for. Following in the keel marks of Mr. Gillette, now comes W. B. Leeds, President of the Chicago, Rock Island and Pacific Railway Company, and in his new \$500,000 steam yacht, which has just been launched, he has provided for the storing of three automobiles, one each electric, steam and gasoline. Everything needed for the repair, care, charging, cleaning, etc., of the vehicles is provided for and the Leeds floating automobile room will have a special detail of three men—an expert machinist, a chauffeur and a helper, whose sole duty it will be to attend to the marine automobilic affairs of Mr. Leeds. Verily, the man of to-day, particularly the wealthy one, has many reasons to be thankful for the luxuries science and mechanics have given him.

The King and His Mask

The *Tribuna*, of Rome, is responsible for the following anecdote: Some time since King Victor Emanuel, who was passing a small field fort in an automobile, encountered a captain of artillery and halted to interrogate him. Finally the insistence of the Sovereign, who was wearing huge black goggles that half concealed his face, appeared suspicious to the officer, and wishing to put an end to the queries, he said: "Excuse me, I have already said too much, perhaps, and will not continue." "O," said the King, "you can tell me anything, I am most discreet." "But," replied the captain, "there are details that even the most discreet should not know." "I repeat," said the royal interlocutor, "you can safely make an exception in my case." "But who are you, anyway?" asked the perplexed officer. "What! You don't know your own King?" said Victor Emanuel, removing his mask and then congratulating the surprised man on his notable discretion. Beware the unknown binocle when in a confidential mood.

Feeds Only from Center Level

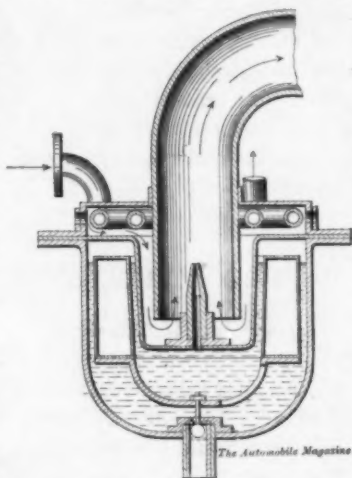
IT would, perhaps, not be claiming too much if one was to say that the future success of the explosive engine waits more upon the appearance of the perfect carburettor than upon any other improvement. Inventors and manufacturers both recognize this and the efforts of each are now aimed at bringing the carburettor up to the strength of the remainder of the motor equipment.

It is interesting to note the many really ingenious methods employed to overcome the defects of existing forms of carburettors. Among the latest of these feed one designed Bon, of Billan- which is so con- gasoline or other taken at the cen- matter what the vehicle or the ap-

To accomplish provides a recep- of which is pro- tral inlet con- or other suitable is attached to an ranged within the constructed so as proper level of upper end of the receptacle is provided with a horizontally projecting flange to which is secured a similar flange of an inner receptacle, the bottom of which has a central hole. Over the hole is a vertical ejecting nozzle, the upper end of which is on a line with the upper level of the fluid in the outer receptacle.

Above these receptacles, and secured to their projecting flanges, is a hollow dome or cover plate, the periphery of which is provided with a number of holes intended to be controlled by a ring, rotatably arranged around the periphery of the cover and having similar holes, which serve for the admission of air to the carburettor.

Secured to the center of the cover plate is the outlet pipe, the lower portion of which forms the mixing chamber, extending down-



comes the float- by Francis Le court, France, structured that the liquid can only be ter of its level no position of the paratus is.

this, M. Le Bon tacle the bottom vided with a cen- trolled by a ball valve. This valve annular float ar- receptacle and to maintain the the liquid. The

wardly to a point near the bottom of the receptacle and through which the mixture of air and gasoline passes to the combustion chamber.

Arranged within the cover is a coil pipe, through which is passed a part of the exhaust gases from the motor for the purpose of heating the air entering the carburettor. When the motor is at the suction stroke, the air entering the carburettor through the holes in the cover and warmed by the coil pipe passes downward through the annular space between the pipe and the inner receptacle, and thence upward through the outlet pipe forming the mixing chamber, carrying with it the liquid found in the central nozzle.

From the illustration it may be readily seen that the liquid is continually drawn off at the center of the level, notwithstanding the position of the apparatus. While the swaying of the vehicle is thus in a measure provided for, unfortunately the still more formidable troubles of the float-feed carburettor resulting from the verticle jolt of the vehicle have still to be contended with, even after M. Le Bon's efforts.

MOTOR JINGLES

(Set To Old Melodies)

(Auld Lang Syne)

Should auld Pegasus be forgot,
And ne'er be mentioned more,
Just *coz* a brand new locomote
Has motored to the fore?

(I want to be an angel)

I want to be a chauffeur
And with the chauffeurs stand,—
A visor on my forehead,
A motor at my hand :
Then right in all my glory,
Conspicuous and gay,
I'll drive the finest racer
And "scorch" both night and day.

LA CHAUFFEUSE.

Pride Goeth Before A Fall



He started out upon the road,
As proud as man can be;
He grasped the lever in his hand,
And sat in dignity.

He looked as if he owned the earth,
So full of pride was he;
But there are lots of little things,
That none of us can see.



A tire burst with loud report
He simply said, "Oh! Gee!!"
And when he found the cause
A tack, said something—
With a D—

Why External Explosions Occur

BAUDNY DE SAUNIER, one of the most interesting of French writers, dealing with the external explosions of gasoline motors, says that the most frequent cause thereof comes from a defective joint between the exhaust pipe and the cylinder head, with the very natural result that the exhaust then takes place into the open air. This will occur regularly with each explosion, and should be remedied at once. The same regular explosions will occur where tube ignition is used, from a burst tube. The most frequent place for the trouble to originate, however, is in the carburettor. This, says M. Saunier, is due to a variety of causes, among the most prominent of which are the following :

The lift of the intake valve may be too large, owing to the lock nut having worked loose, or the spring having broken so that the valve has not time to close before the explosion takes place ; there is then direct communication between the cylinder and the carburettor. If the valve stem is a shade tight, the same thing occurs. It may even happen if the pipe from the carburettor is so short that the gasoline in the latter takes fire, but this is not a very serious matter if it is a jet feed, as closing the air inlet puts it out.

Defective ignition is another cause. Suppose that the motor is running fast and that the firing point is suddenly put at its latest. Since at high speeds the full volume of charge is never drawn in, it follows that, after compression, a slight vacuum is formed when the piston returns, and the inlet valves open. Just at this moment, the ignition being late, the explosion takes place, and an explosion results in the carburettor.

If none of the foregoing are blamable, then defective carburation is almost sure to be the trouble-causer. Under these conditions the charge may burn so slowly that combustion may not have entirely ceased when a fresh charge arrives, and the latter consequently fires back into the carburettor. Explosions in the exhaust box are always due to defective and intermittent ignition. The ignition having failed perhaps several times in succession, the exhaust box and pipe are filled with explosive mixture, which ignites when at last ignition takes place, and the hot gases pass into the exhaust pipe.

Automobile Transportation in the Philippines

By GEORGE E. WALSH

AMERICAN automobiles have been shipped to the Philippines in the past year both for private use and army purposes, and now the transportation of the United States mail in portions of the islands is to be undertaken by motor vehicles. The transportation of the mails by means of bull carts, escorted in the interior by wagons and mule trains, impresses an observer with anything but an idea of rapid transit. There is nothing in the world slower than a bull cart in the Philippines, and with it days are required to carry the mails a distance which would be covered in this country within a few hours.

The difficulties of transportation in the Philippines are, of course, quite formidable, and it will take years and immense expenditures of capital to make roads passable and reliable. In parts of the interior the land is so hilly that it is hard work to cut anything more than trails across the country, and along the coast low sandy stretches and marsh lands seem to place a permanent prohibition upon the building of any kind of highways that will be of service during the rainy season. Yet, under American rule, the country is now being rapidly gridironed with military roads, common highways and permanent trails. The mule trains and bull carts are laying the foundations for the future roads which may in time bring the whole country into close communication with the seaboard.

But at present the two great necessities of the islands are trolley cars and automobiles. Steam railroad lines are few and run only short distances, and the cost of constructing is so very great that they will not be extended very rapidly. Trolley lines, however, both for passenger and freight traffic are rapidly being projected and built. These electric lines connecting the different military stations and garrisons of the islands will prove of considerable importance, since there are over 300 of these stations, many of which can be connected by trolley without much cost. Already the stations are linked together by telegraph and telephone wires and between them passes a continuous procession of couriers or pack trains. The transportation of freight, passengers and mails depending upon the unity of this procession is naturally slow work.

When the United States government first attempted to give the

islands a decent mail service native runners or couriers were employed to carry the letters and first-class mail matter, but experience quickly showed that any such method was unsafe. While the trained runners could make much better time than the mule trains or the bull carts, they could not be trusted. They constantly rifled the mail packages, and often claimed to have been waylaid in the woods or hills by bandits. The military post office then forwarded the mails by armed couriers or in mule trains protected by armed escorts.

After trying all these methods of mail transportation and finding that not one of them would do the government has now decided to try automobiles. The experiment will prove of special interest in view of several novel features of the work. It will be the first instance of the automobile as a pioneer method of transport in a new and undeveloped country. The reasons the government gives this form of transportation a trial are that the roads through the islands, while poor and uncared for, are not so rough as to make it impossible for the automobile to pass over them with reasonable speed. Philippine roads for the most part follow the line of the coast and are generally level and sandy. Except during the rainy seasons they are hard and compact. Without any great amount of repairing they are quickly traversed by both the bicycle and the automobile. During the past year more than two dozen automobiles have been shipped to the islands for use by the wealthy islanders. The demand for these motor vehicles will unquestionably increase rapidly. The horse cannot withstand the hot climate of the islands, and it is doubtful if he will ever prove the serviceable animal he is in other countries. For this, if for no other reason, the motor vehicle has a future in the Philippines, and the plan of introducing these vehicles by first employing them for mail transportation will tend to stimulate their use.

The general impression prevails in America that few of the natives of the Philippines can afford such luxuries as automobiles, and that the demand for them will, therefore, be limited to the Americans in the islands. This erroneous impression should be at once dispelled. There are several thousand wealthy native families in the islands who control large rice plantations, dyewood forests, sugar estates and mills, and cocoanut groves. Some of these natives own several large farms in different parts of the country, and even now, they use motor vehicles for traveling from one to another of their estates. The absence of railroads forces these islanders to depend upon their own individual means of transport, and the motor vehicle comes nearest to supplying

exactly what they need. Consequently it is not at all unusual to see a native riding through the country districts in a newly imported American automobile. The fact that these rich natives are so quickly availing themselves of the opportunity to purchase the luxuries made in this country is one of the most significant proofs of the gradual settlement and development of the islands.

The bicycle was practically introduced in the islands by the American soldiers. Several thousand of these marumotive conveyances were brought to the Philippines by the volunteers, and since then there has been a steady stream of them going into the islands. Soldiers have used them for carrying mails, despatches, and for their own transport. The bicycle has come to be a feature of army life in the Philippines. The conditions of the two countries are such as to make the needs entirely different and distinct. If present conditions continue in the islands trade must reach out and expand in places that have heretofore been untouched by modern methods. The question of how to push this trade out into the interior and along the more isolated parts of the coast is one that deeply concerns the Philippine merchants, and every effort is being made to solve the problem.

With new railroads practically out of the question, or so far in the future that they are not now to be considered, the question resolves itself into one of trolley lines or automobiles. Both of these indeed are to make a bid for the immediate future trade of certain portions of the islands. Heavy automobiles for trucking and country transportation of merchandise are not so much out of the question as some think. Several large motor trucks were shipped to Manila in the latter part of last summer, and these have been used for transportation of goods into the interior and along the coast. One express and transportation company has operated two of these in Manila with considerable success, and two more have been ordered for the same purpose by another company. Merchants in Manila see fields for trade lying east and south of them which they are unable at present to reach solely because of the lack of transportation facilities. The slow-moving bull cart methods of conveying goods from one town and province to another is sufficient to discourage an American, and none of them who have settled in Manila for the purpose of building up a business is content with the present conditions.

The automobile and the trolley are the two factors to control this trade. The trolley is already spreading out in many directions, linking towns and provinces together so that freight and passengers

can be carried across a country which in the rainy season is otherwise absolutely impassable. When one speaks of these roads as impassable it is the mildest possible way to describe their condition. No conditions similar to those existing in the Philippines during the rainy season can be found in the United States. Carts and wagons sink up to their hubs in the mud, and would undoubtedly go even deeper, if it were not for the body of the wagon holding them up. Mules and soldiers tug away at the ropes to pull the wagons out. Every few minutes a halt must be made to release the wagons from their muddy prisons. Transportation under such conditions is practically of little account during the rainy season, and even a motor vehicle could not overcome such obstacles under such conditions.

The trolley lines, however, can follow high ground where no muddy pitfalls need be guarded against, and as the tracks stand above the water and mud they are serviceable at all times. It is estimated that the trade of the islands would increase a hundredfold within six months if proper transportation facilities were provided. Electric lines must eventually solve the problem, and then the automobile will continue to act as feeders to these. There is probably no country in the world which offers better scenery and inducements for automobiling than the Philippines during the dry season, and many Americans have gone to the islands for the purpose of enjoying their rare beauty. A large part of the country can be visited in a motor vehicle, while the pleasures and the novelty obtained are more than sufficient to repay one for the trouble. With the United States government employing automobiles as mail-carriers, one may feel assured that if the experiment is successful, motor vehicles will steadily grow in Philippines, not only as necessary articles of business, but also as instruments for pleasure and recreation.

About \$35,000 Per Dozen

SOME idea of what a first-class Daimler costs first handed may be gained by the fact that the Cannstadt plant has just turned over to the German military authorities nine automobiles, for which the government paid 108,000 marks (\$25,704) or an average of \$2,862 about. Americans and others with plenty of money and no patience pay three to four times as much for the same or an inferior vehicle of this make.

Fed by the Automobile

WITH the sole exception of coal mining and the great metallurgic industries, it is now conceded that automobilism, directly or indirectly, maintains more people in France today than any other industry. The number of those in France whose support is in one way or another derived from the automobile has been estimated by M. Leon Auscher at close to 250,000. This great army of the employed is divided by M. Auscher among the following trades :



French Motor Delivery Wagon

Foundries for the production of cylinders and other castings.
Copper boiler works, factories for oilers, tubes, connections, etc.
Aluminum foundries, which work exclusively for the automobile industry.

Spring and spindle works, whose output has increased fivefold since 1898.

Factories for bolts, screws, rivets, and other small ware.

Wheelwrights' shops, which depend in a certain measure on automobile factories.

India-rubber factories, which have developed to a colossal extent.
Nickel and copper shops.

Aluminum-carriage-building trade and allied industries.

Automobile-painting trade.

Automobile-upholstery trade which employs morocco-dressed cow-hide to such an extent that the French tanyards cannot meet the demand, and English and German products are also used.

Lamp trade, which furnishes two and sometimes five lights for each vehicle.

The small industries allied to the carriage-building trade—the leather worker, the enameler, the cabinetmaker—all contributing certain details before any single vehicle is complete.

Factories for making the various batteries.

Specialties in measuring apparatus, ampere meters, volt meters, resistance-measurement apparatus, etc.

Manufacturing, rectifying, and canning automobile mineral fuel and preparing cans of oil and non-liquid grease.

The Proposition and the Patent

The Impecunious Promoter was interviewing the Been-There-Before Inventor. The former had a Proposition, the latter had a Patent. The Proposition was for the Patent, the Patent was for an Improved Motor.

"Well," said the Promoter, presenting his Proposition, "I'm willing to devote all of my time to this invention."

"Say," replied the Inventor, coldly, as he pushed his Patent away back from the Proposition, "couldn't you put in about \$7.50 instead?"

But the Promoter absolutely couldn't; so, withdrawing his Proposition, he placed it handy for use and went out looking for other Inventors.

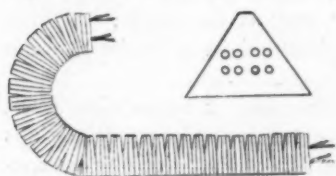
Moral: Sometimes even Inventors become Wise.

Webster Up-to-Dated

Horse-laugh, *n.*—A raucous, chuckling sound of the voice accompanied by an expulsion of air from the lungs, usually given in mockery, contempt or derision. (Obs.) See Auto-Laugh.

Something New in Belt Drive

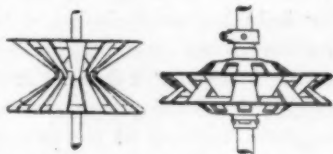
BELTS and pulleys as methods of conveying power have never met with the favor among the American makers of motor vehicles that they have abroad. Possessed of many really good points the belt has always suffered from its inclination to slip, stretch and become affected by adverse weather conditions. Under these conditions belts have never been taken up in this country, the first makers of motor vehicles here finding the almost perfect bicycle chain answering all of their requirements. Eventually the makers designed chains especially for automobile use, and thus it is that the belt is only seen here upon vehicles which have been imported.



Abroad the belt is very far from being entirely replaced by either the chain or the flexible shaft, and considerable ingenuity has been shown by its users in their endeavors to overcome the defects of the belt and make the battle between it and the

other forms of transmission a very much more open one.

The illustrations herewith tell at a glance the story of a very ingenious attempt on the part of a Frenchman, Fouillaron, to combine the good points of the belt with the best ones of the chain. The result is a leather chain which is not only based on an entirely new principle in its own construction, but has been given an equally as original pulley to run upon. As will be seen the chain-belt is triangular in section and in angle, being composed of sections of leather threaded on eight gut cords as shown. The result is a transmission device for which is claimed not only the strength of the chain, but the flexibility of the belt. Having originated the chain-belt the clever Frenchman proceeded to supply it with extensible pulleys, which are simplicity itself. Each pulley is built up in the shape of two cones formed of interlacing blades. One cone of each pair is fixed, while the remaining one can be displaced laterally, giving a variable effective diameter. The driving pulley is attached directly to the crank-shaft of the motor. Here is where the value of the chain-belt demonstrates itself. Fitting



perfectly the angles of the expanding pulleys, it cannot slip and is perfectly noiseless, while neither heat nor moisture have any effect upon it. Taken all together it would seem as though the Fouillaron invention has enough merit in it to delay for some time, if not to defeat, the abandonment of the belt drive. In any event it is a really ingenious attempt to do one or the other.

The Microbe and the Motor

IT is well known that if it were not for its powerful action as a drug and poison alcohol would be a cheap commodity. Sugars and starches grow in almost all the civilized countries in the world, and it is but a short step to convert these into alcohol by fermentation, a process due to the agency of micro-organisms. All cereals would thus serve, and the roots containing sugar, such as the maple, and even fruit such as the grape, in a time of plenty might easily be a cheap source of spirit.

Alcohol possesses excellent calorific value, it burns with a hot flame, it is easily vaporized, and it yields, as a rule, no deleterious products of partial combustion as does oil or coal. It is thus especially well adapted as a fuel for the motor-vehicle. The drawback to its use is, of course, its expense, but some effort to reduce this has been made with success in France by getting a concession from the Excise to withdraw the high duty, which is done if it can be shown that the spirit has been rendered undrinkable.

Such alcohol is known as "denatured" spirit, the addition of some highly nauseous compound making it absolutely unfit to drink while not interfering with its properties for the purposes of fuel. Similarly denatured alcohol is being employed in lamps for the production of an incandescent light by the heating of the Welsbach mantle in the spirit flame. It is, therefore not chimerical entirely to suggest that the day may come when the world may not only owe its increased facilities of locomotion to the much-abused microbe, but some of its effectual means of artificial illumination also.

Their Strongest Efforts

"Some dese hyar auchormobeels," said the aged colored gentleman, who for a consideration was aiding the unfortunate owner in making a roadside repair, "pears to me is jess built in such a curious way dat dey nebber seems to be puttin' forward deir bigges' efforts 'ceppin when dey's headin' right foh trubble."

Shaking Them Up in Ireland

WHEN it comes to disregarding the law the Irishman may always be safely counted upon to do his share, but even an Irishman must not exceed his prerogative in this respect as apparently the automobilists of the Emerald Isle have been doing, if their scorching indulgencies are anything like as bad as the *Belfast News Letter* would lead one to believe. Says this truthful representative of Irish affairs :

"To run over a policeman is a very grave offence. Unfortunately, motorists do not confine their attentions to the police, but distribute them all over the body politic. Not unfrequently they run into hedges and ditches, and suffer physical injury themselves, and there are instances on record of five-bar gates having been cleared by youthful and enthusiastic drivers. Wheelmen in early days were bad enough, but the drivers of motor-cars go at treble their speed, especially when they leave the metropolis behind them. The wagoner with a heavy load behind his horse is often painfully undeceived when he imagines that it is the duty of the motorist to get out of his way. The modern Phaeton sounds his syren, whose startling voice is enough to demoralize nervous people unfamiliar with the muffled noise it makes. It often approaches the unwary pedestrian in a cloud of dust, snorting along at express speed as it vomits forth its pestiferous fumes. If motorists would always collide with policemen their erratic speed would soon be regulated by the magisterial bench."

Judging from this, what the Irish policemen are now most in need of, is some sort of a modern St. Patrick who will undertake to banish the scorchers from Ireland as effectually as his predecessor did the snakes. The modern task is, however, much more difficult. You cannot catch a scorcher as easily as you can a snake, and he is such irreverent customer that something stronger than anathema will be needed to drive him out.



An English advertising idea showing how one shape of rim pinches a tire while the other does not.

Automobile and Good Roads

By GEORGE E. WALSH

THE possibilities of automobile touring in a country the size of the United States are limited only by the condition of roads, and the movement to develop, improve, and repair the extensive road systems of the whole country must to a certain extent measure the growth and expansion of this form of pleasure. The effect of the bicycle on road improvement has been so phenomenal in the past 10 and 15 years, that few can stop to question the actual practical value of a systematic joining of all interests in furthering the movement for making better roads. Directly and indirectly the bicycle has been the means of interesting capital in road building to the extent of millions of dollars, and of spreading abroad more accurate and scientific data concerning road construction than was ever before done in so short a time. The bicycle practically paved the way for automobiling. It made this modern vehicle of pleasure possible in a country that was formerly noted for its "bad roads."

The automobile interests should therefore be pledged to all that encourages and stimulates road improvement. This should not be merely an indifferent factor in the road questions of the day, but a positive and aggressive force. Whether interested in the manufacturing of automobiles, or merely in the pleasure of running them for recreation, there should be a unity of purpose and aim in endeavoring to broaden the movement to convert impassable country roads into pleasant durable highways, over which all vehicles can pass easily at any time of the year. Automobiling is less dependent upon fine weather than the bicycle for operation, and the sport can be carried on successfully in midwinter as well as in summer provided the proper roads are there.

The two endurance contests in this country during 1901 demonstrated the superiority of some machines over others, and showed the value of the personal equation of the driver, who, like the man behind the gun, contributed largely toward the success of his machine by personal knowledge, accuracy and quickness of decision, and skillful manipulation; but there was another factor which the contests emphasized in a most remarkable way. The condition of the roads over which the vehicles passed determined the races far more than was

appreciated. It was notorious in one of these endurance tests that the ranks of the contestants were rapidly thinned out before half the distance was covered, and the break-downs and accidents were almost directly due to the condition of the roads. In pleasant weather collisions were quite frequent at the beginning of the races, because of the dense clouds of dust which enveloped the contestants, and in wet weather the machines gave out, because the roads were so muddy and and slippery that accidents from unnatural strains constantly happened, or the exposed parts of the machinery became clogged with the mud, making normal speed impossible.

American vehicles have been constructed with a view to running over heavy and rugged roads, and any touring machine which cannot stand this rough usage is adapted only to town and city services. But while the machines are better and stronger than ever before, and the drivers have learned by practice and experience the value of careful driving, the fact seems to be overlooked that road conditions have not made a corresponding rate of improvement. If there are to be new records in long distance automobiling in this country, those interested in the sport must become more earnest and systematic in obtaining better country roads. With our extensive common roads system, and a climate and scenery unsurpassed in the world, we should within the next ten years construct plenty of fine macadam roads. We should have a system of good roads which would lead from ocean to ocean, and from the Gulf to Canada. The accomplishment of this would give to the automobile industry a greater boom than ever.

The effort of manufacturers to-day in this country is necessarily toward high-speed endurance machines, which will take almost any kind of a country road and not break down. This requires greater expense in manufacturing them than if the roads were on an average good or passable. The extra expense is put into the machines simply to pay for the neglect of the roads in certain parts of each State. There are to-day, in sections, fine stretches of country highways, but so far they have not been connected in one continuous system, which would enable machines to traverse the whole country, from seaboard to seaboard in anything like decent riding. The road question is one problem, and the construction of strong, durable automobiles another. And yet the two overlap each other, and with the solution of the former, the latter will be greatly helped to a successful issue. At present, road improving is too spasmodic. In one section the work

reaches a high stage of efficiency, but in another not far distant the highways are abominably bad. Interstate and inter-county coöperation must be brought about, or the movement will be a long time toward reaching anything like success.

With inter-ocean highways once established, numerous feeders in all directions would soon be constructed. The very fact that one such system were built and used by thousands of touring wheelmen and automobiles would stimulate those living off the line of the roadways to make proper connections with the system. Railroads are to-day encouraging farmers and manufacturers and residents along their lines to build good roads to act as feeders to the steam lines. It has been found that these feeders not only improve the surrounding country and put money into the pockets of the real estate owners and farmers, but they also benefit the railroads, stimulate the growing of crops and manufacturing of products.

Pestered by the Portuguese

Automobiles have, as yet, been introduced in but very limited numbers in Portugal, and the law makers of that country seem determined to suppress that method of travel as far as restrictive laws can do so. By law, speed is regulated to 20 miles per hour in the open country, and 6½ miles per hour in towns and villages. These oppressors have not made action against trolley cars yet, but they are certain before long to endeavor to protect the interests of the mule by holding down the speed of electric cars to that of the long-eared steed.

Had the Evidence at Hand

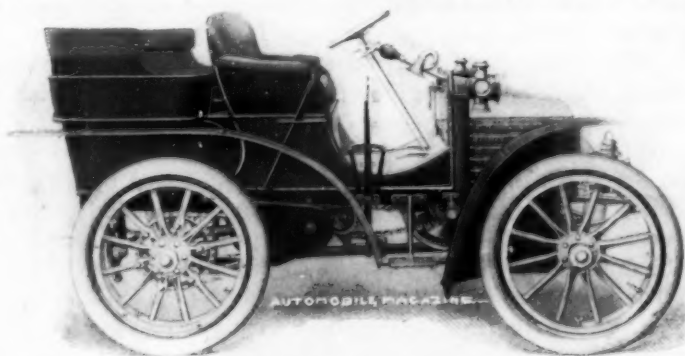
At a series of conferences organized by the Motor Club of Belgium the opening lecture was given by a Brussels constructor, commencing a course of theory and demonstration on the motors and principal parts of petroleum vehicles, and the gentleman made use of a veritable motor, with all the essential portions of its mechanism, to describe his lecture, which was thus rendered plain and instructive.

If expense is no object and you wish to acquire an extensive mileage to show to your admiring friends, attach your odometer to your gas meter. Nothing can pile up figures faster than that combination.

A Successful and Interesting Automobile

By ALEXANDER F. SINCLAIR

BIRMINGHAM, England, is a city of no little importance. If it were entitled to no higher honor than being the birthplace and home of that eminent politician, the Right Honorable Joseph Chamberlain, at once the most generally admired and cordially disliked statesman in Britain to-day, it would have cause to feel good, but it has other, and it may be more substantial, claims to greatness. It employs a larger number and more varied assortment of artificers in metals than any city in the world, and its prestige in this respect is



Wolseley 10 H. P.

not a thing of yesterday. As long ago as 1538 it was described by a writer of that period as a town of "smiths and cutlers," so that if there is anything in the theory of heredity its artisans should be easily taught and exceptionally expert. That they are the latter their work testifies, for whether it be in making gold and silver jewelry or the many other manufactures of these metals, or those of copper, brass, steel, and various amalgams, in the form of arms, ammunition, ornaments, toys, coins, lamps, pins and needles, pens and many other articles, to say nothing of "Brummagem" ware, a kind of metallic shoddy in the form of cheap jewelry, their workmanship is of the best.

When cycle making began it was taken up by a number of Birmingham firms, by whom it is still carried on extensively, and now that automobiling has reached these shores, what more natural than that Birmingham should "take a hand"?

Of the several firms engaged in the industry none has been so successful as the Wolseley Tool and Motor Car Company, Limited. In the 1,000 miles trial of 1900 the company won the first prize of the A. C. G. B. I. together with silver medal of the Automobile Club de France, and the Daily Mail prize. These successes were followed in 1901 by the firm's Glasgow Exhibition contest. To run two cars and win gold medals with both is a feat not often equalled, and when it does happen its commercial value would be difficult to over-estimate. It may be said for the company that so far, they have shown no evidence of failure to appreciate the value of their success. Their light is not eclipsed by the shadow of their modesty. Quite the contrary, indeed, for recognizing the truth of the saying that "sweet are the uses of advertisement," they make good use of the pages of the technical press.

"The manufacturer of a good motor vehicle requires a thorough technical knowledge of the business, the most careful attention to details, and a properly equipped factory." Such is the preface to the Wolseley Company's catalogue and it would appear that their claim to the possession of all these requisites is justified by the facts. Adderley Park works are unsurpassed in the automobile industry in this country, and the finish and performances of the cars turned out by this firm demonstrate the existence of the qualifications mentioned.

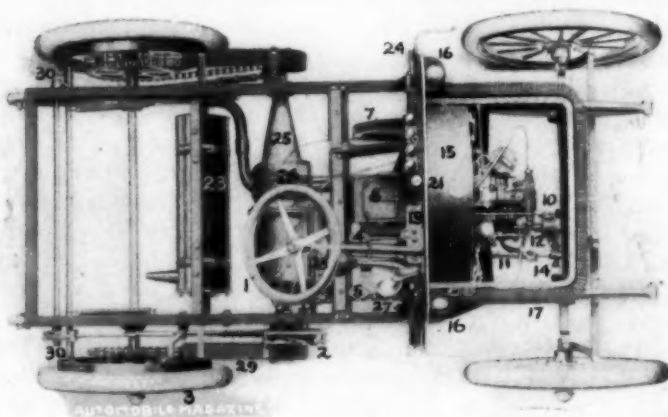
The two gold medal cars were run in classes A and C, and were of 5 H. P. and 10 H. P. respectively. They were very favorably commented on during the contest, their admirable workmanship and design being recognized, while their running was also of a satisfactory character. The design of the two cars is very much on the same lines, the less powerful motor having but one cylinder, while the other has two; and as the greater in this case undoubtedly includes the lesser—and more—the 10 H. P. vehicle has been selected for description.

In the description of a motor driven vehicle the practices of dealing with the most important part—the motor—first appears to be a just one and is followed in this case.

The Wolseley Co. disagrees from the majority of present day car designers in that they prefer the horizontal to the vertical position for the motor and they do not fear to justify the faith that is in them. They adduce various arguments in favor of the horizontal engine and by way of example two from among the number may be cited. The first is the greater comfort resulting from the stability of a car with a

low center of gravity when running at high speed ; the second is the more efficient lubrication of the cylinder which can be secured with the horizontal position. Regarding the first point there is no room for argument, it is admitted. On the second, however, there is more to be said. Although it may be conceded that the lubrication is more easily effected, it is frequently maintained by the advocates of the vertical position that the weight of a horizontal piston wears away the cylinder lines and necessitates frequent repairs. This wear the Wolseley Company contends is the result of ineffective lubrication, and instance the angular thrust of the piston rod as exercising greater pressure on the lines than the weight of the piston, yet, if the lubrication is satisfactory, there is practically no wear.

The two cylinders of the motor, 13, are each $4\frac{1}{2}$ inches bore and 5



inches stroke, developing about eleven brake H. P. at 750 revolutions per minute. In the construction of the motor, as in that of the car as a whole, convenience and accessibility have received unusual attention. On the forward end of each cylinder and easy of access is fitted a separately water-jacketted combustion-chamber which can be removed with a minimum of trouble, thus affording an easy means of reaching the cylinder for purposes of repairs, inspection, or cleaning, and without resorting to the unpleasant necessity of dismantling the whole engine. This system of separating the water space around the cylinder from that around the combustion chamber, combined with ground joints, by which packing is rendered unnecessary, has much

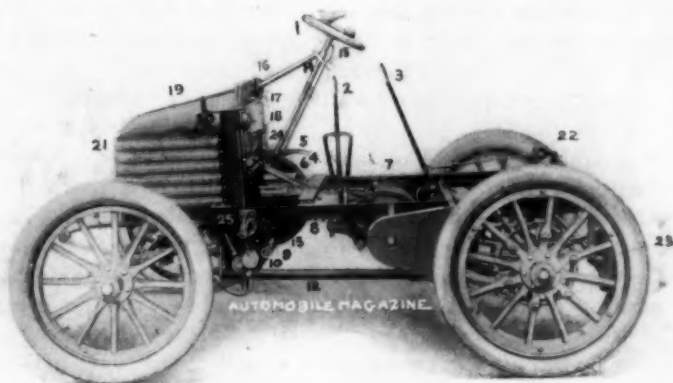
to commend it, and if no advantage other than the exclusion of water from the cylinder resulted its adoption would have been justified. Perhaps the greatest benefit derived from the system, however, is the attention which can be given with little inconvenience to minor cylinder troubles. When considerable delay and a good deal of work are involved in remedying such trifles, there is a tendency to put off the evil day, until what was originally of slight moment becomes a serious defect. We all know the truth of the maxim about a stitch in time, but, if attention to it means a good deal of trouble, we incline to let it rip all the way.

The ignition plug and inlet and exhaust valves are fitted upon this cylinder head-piece, the valves as well as the pipes to and from them (see 12) being unusually wide. Both cylinders suck from a single float feed carburettor of a type manufactured by the company under a license. The ignition is electric only, tube firing being considered both unnecessary and dangerous. A static spark is produced by a secondary battery and induction coil, the necessity for mechanism within the cylinders being thus avoided. It is claimed for the contact-breaker, 10, which is of original design, that it secures freedom from short-circuits, and if the claim can be made good it would appear that the most serious difficulty in connection with the secondary system had been overcome. This appliance is operated from the half-speed shaft, and is so constructed that it can be rotated by means of the small lever 14 under the steering wheel, the time of sparking being thus varied at will.

The two pistons drive cranks set at 180° , and from the crank-shaft the power is brought into operation by means of the friction-clutch 6, governed by the pedal 5, whence it is conveyed to the countershaft by means of 8, a Renold's silent chain. The countershaft carries a sliding sleeve on which are mounted spur pinions; these, operating with fixed spur wheels on the differential cross shaft within the case 7, give four speeds forward and reverse. From the ends of the differential shaft the power is carried to the sprocket wheels attached to the spokes and hubs of the back road-wheels by means of two $1\frac{1}{4}$ -inch roller chains. The four speeds are in ratio but may be varied by changing the sprockets on the ends of the differential shaft. The change-speed gear and reverse movement are operated by the lever 2, the action being conveyed by means of a sector at the extremity of the lever, acting on a pinion fixed to the end of the striker spindle. This gear and method of transmission does not

require the absolutely accurate alignment needed when the power is all shaft-carried, while the chain gear permits the change-speed to be run slower than the motor; and, although a fixed drive results, the chain possesses sufficient elasticity to absorb some of the shock caused by a too rapid insertion of the friction-clutch. This clutch is of aluminum faced with leather, the spring pressure being regulated from the outside. All the gearing and shafts are made from mild steel forgings, hardened, and ground true. With a view to minimize friction as far as possible a special form of bearing has been introduced in which two rows of balls are used. The gear case is of aluminum alloy and, as usual, is fitted with grease for noise deadening and lubricating purposes.

When the normal speed of a motor is only 750 revolutions per minute it would almost seem that any system of cooling would be



sufficiently effective, but in this, as in other parts of the car, an original method is brought into use by which efficient cooling is secured with only a gallon and a half of water. The radiating pipes and their supports, combined with the communicating pipes and jackets, contain all the water used, and it is said to be ample for any distance. The radiating pipes, 21, are of copper and their gills of brass. The supports, 20, are of aluminum and communicate by means of copper with the centrifugal pump, 11, which is operated by gears from the half-speed shaft, and runs at only a quarter of the motor's speed. The water vessels being higher than the cylinders, no trouble beyond the heating, and consequent occasional replenishment of the water would result from a failure of the pump.

The oil supply, 17, is fixed behind the dashboard and in front of the driver, and is provided with a gauge-glass for the information of that individual. The petrol is carried in a tank of six gallons capacity placed in front of the dash-board, through which, however, a gauge-glass protrudes to tell how the supply stands, while a knob, 16, projecting above this glass, and within reach of the driver, regulates the petrol supply valve. The convenience of this arrangement not only in the matter of filling, but for purposes of observation and control is obvious.

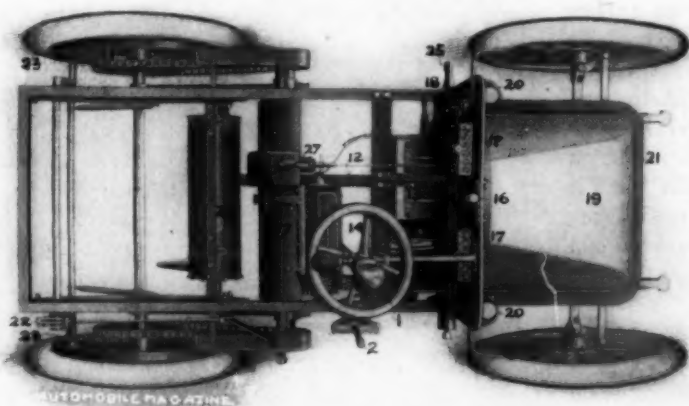
The steering gear is another of the distinctive features of this vehicle. The end of the steering rod carries a bevel pinion which operates a locking form of mechanism fixed to the front axle, the effect being that no obstruction met with on the road affects the direction of the car. An aluminum bracket attached to the dashboard supports the steering rod, and carries the levers, 14 and 15, the purpose of the first being, as already stated, to regulate the time of sparking, that of the other to operate the throttle valve. The steering wheel, 1, is quite a handsome article, having an aluminum center with a walnut rim.

The brake question like the poor is ever present. Notwithstanding sufficiently drastic tests held so recently as last September further experiments—this time for the information of the Local Government Board with a view to increasing the legal maximum speed—were held on January 11th on a measured mile within the precincts of Welbeck Abbey, in Nottinghamshire. In this contest the Wolseley Company did not take part. In the September trials both the Wolseley cars running down a moderately steep hill with brakes off and engine free stopped within a length, and with such effective brake power then proved the company probably did not consider a further test necessary. On this car a water-cooled band-brake, 27, operated by the pedal, 4, acting on a brake-wheel on the differential shaft is used for short descents or sudden stops, but for long descents, a powerful leather-faced shoe brake, having on two steel rims attached to the back wheel fellys, is brought into use. This brake, 22 and 23, is operated by the lever, 3, acting differentially, the pressure exercised by both shoes being thus equalized. It is claimed for this brake that it eliminates strain from the chains and spokes, and is absolutely safe on any hill. It is doubtful, however, whether it would enjoy any superiority over commoner types under the circumstances described by Mr. Henry Sturmey in the *Autocar* of January

4. Mr. Sturmev had tackled a rather steep brae covered with wet ice, and had reached near the top when the wheels began to slip, and, although he tried all his speeds the car slid backward down the hill. The application of the brakes did no good, so after the car had slipped back sixty or seventy yards, turning round till it faced downhill in the process, he concluded that it had a sensible conception of the right direction and let it run. Brakes to be "absolutely safe on any hill" must do a good deal more than skid the wheels.

The wheels are of the usual artillery type 34 inches in diameter fitted with Michelin pneumatic tires. The back hubs are peculiar in that they have embedded in them the center rings or supports of the sprocket driving wheels.

The framework of the car is from one piece of channel iron and



has a substantial and reliable appearance. The spring brackets are forged from the solid and being in one piece a strong and rigid arrangement results. The springs are of the usual laminated elliptical type provided with rubber buffers. The axles are of mild steel and are exceptionally heavy, the few pounds which might be saved on them being considered by the company as misplaced economy.

The body is a roomy tonneau seated for four persons including the driver; the workmanship and design of this part of the vehicle being in no way inferior to those of the mechanism.

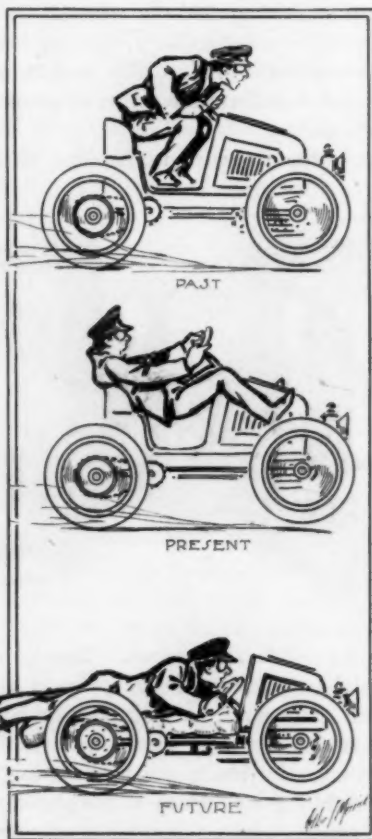
Every part of the car appears to have received thoughtful attention with the object of securing effective working, combined with convenience in operation, and lengthened wear.

Mastery Not Easily Acquired

NONE except those who have handled the wheel of an automobile at speed have a real conception of what it is to try to master fate and also control the vehicle. When it is known that

in passing over masonry cul-where the ele-over 6 or 8 the level of this elevation ing approach-side of the slope any-10 to 15 feet automobile great speed af-crown and ed such an up-will not be on again until it through the where from it can then be the driver spirit of reck-is seldom or he must be of himself and that he knows he is doing fore ready to risk as merely be looked for-ing the race. feeling is that perience when elevations at ly is something that brings out heroic qualities which lie dormant in most people.

POSITION IS EVERYTHING.



What Scorching Has Done and May Do

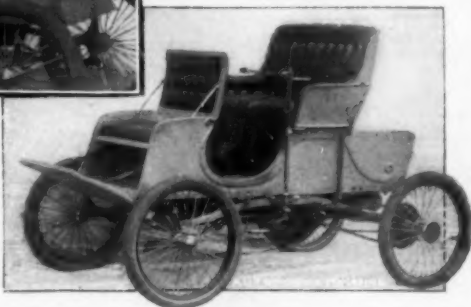
the average vert in France vation is not inches above the road, and is gradual, be- ed on either crown by a where from long, that an running at ter leaving the having receiv- ward impetus *terra firma* has sailed air for any- 15 to 25 feet, imagined how must show a lessness that brought out ; such a master the machine exactly what and is there- consider the a happening to ward to dur- Whatever the fast drivers ex- taking slight speed, it sure-

For the Soldier in a Hurry

SHOULD it ever become necessary for the soldier of the Austrian army to remove himself rapidly from the scene of action his government proposes to give him every opportunity for doing so. For the purpose of reconnaissance the Austrian military authorities have had built a motor vehicle which is to be equipped with three separate motors, each working independently of the other, and which unitedly, are capable of propelling the vehicle at a speed of seventy-five miles an hour. Imagine that affair leading a retreat, will you please.

Two Carriages in One

In recognition of the public's demand for a light motor vehicle which can be made to accommodate more than two passengers and yet retain all of the good qualities of the single seated carriage, the Knox Automobile Company have brought out the convertible here shown. In either its single or its two seated form the new vehicle is equally satisfactory in appearance. The main seat is very broad with a high, comfortable spring back, which in connection with the vehicle's lengthened wheel base should make it an exceedingly comfortable conveyance on any kind of road. To make a vehicle capable of being altered so as to carry an extra number of passengers without making the fact of its convertibility too patent is something not quite as easy of accomplishment as some might think. The one shown herewith, however, seems to be equally as good looking in its two seated as in its four seated form, a fact which will undoubtedly win it many purchasers in the future.



De Dion-Bouton 6 and 8 H. P. Vehicles

FRRIENDS of the De Dion-Bouton concern have often reproached the famous French makers for their attitude towards the inventions of others, but the De Dion reply has ever been to put forth new ideas, seemingly fantastic at first, but proving eminently practical when tried and eventually constituting a standard and enduring types. Take for example the light carriage with the motor at the rear which though everywhere decried at its inception, rapidly became one of the most valued forms of vehicles.

The 1902 De Dion-Bouton carriage is an outcome of this same type, possessing its fundamental features, such as the single-cylinder motor, the two speed changes and the De Dion specialized form of rear suspension. The motor is either 6 H. P. or 8 H. P. with 1400 normal revolutions. The most radical departure for this concern, however, is that in the new type they have placed the motor in front, something they have hitherto declined to do.

The lower-powered vehicle has a speed of 23 miles per hour, the higher one 30, as an average result. The weight of either the 6 or 8 H. P. carriage is about 1,300 pounds, each carrying a water tank and a gasoline tank of $3\frac{1}{2}$ gallons. The wheels are all of equal size and of wire or wood as the purchaser may elect. The reverse motion is obtained by the agency of a pinion meshing with two toothed wheels. The old De Dion system of lubricating is done away with and in its place the splash-board now carries a lubricator pump having valved connection with four feeders, the first of which serves as an outlet for the oil, while the other three regulate its flow, at the will of the operator, into the speed change mechanism and the driving gear.

The placing of the entire weight on the two axles in the new model is evidently a much better idea than the old one, since the motor, with its heavy appurtenances of water and gasoline, batteries, etc., in front, counterbalances the weight of the body, speed mechanism and passengers at the rear. The old De Dion idea was a heavy strain on a vehicle whenever high rates of speed were attempted. Of course the change of direction of the tiller with inclined bar cannot fail to be remarked. The front wheels are governed by a worm and a sector, which, though it is almost universal to-day, was invented by the De Dion people in 1884 for a steam tricycle. The exceptional rigidity of this bar with its vertical columns is marked. Perhaps the

angle will be criticized, but it is only a question of visual habit and will cease to be remarked when the eye has become accustomed to it ; since from a practical point of view, the arrangement is perfect. The steering gear has no lateral play ; it combines with the frame as though made from one piece, and the driver may lean on it in taking his seat, if he wants to, without causing it to bend in the least. This perfect rigidity certainly places this idea at the head of all other inventions in its line. On one of these verticle columns is a lever, *B*, which manipulates the two speed changes. Thus the steering gear is controlled by the left hand, leaving the right to manœuver the brake



and the levers *C* and *D*, governing the carburation and ignition. The driver has but one foot pedal to manage, as in the old model, which contributes in a marked way to the smoothness of travel. It acts on the exhaust, thereby regulating the motor, and brakes on the central transmission shaft when full force is applied.

Advantages of Storage Batteries "Discovered"

An electromobile is figuring largely in one of the theatrical successes of the season in Paris, the "Voyage de Suzette." It comes on in the final spectacular scene, exciting much attention. M. Judic, one of the directors and an expert electrician, says that since the introduction of accumulators on this machine they have been utilized to brilliantly illuminate the vehicle by the aid of electric lamps, and if a night festival of automobiles should be organized this coming Summer illuminated electric carriages will be a prominent feature of it.

Developing the Automobile

By ANGUS SINCLAIR

THE "Chapter on Mishaps" by William B. Roper in the February Number of the AUTOMOBILE MAGAZINE is in line with many of the tales of woe which one hears when four or five automobilists come together in a reminiscent mood. The stories of automobile mishaps, which one listens to with the luxurious surroundings of clubs, have a slight odor of the tales I have often listened to related about locomotives, by members of Roundhouse Stove Committees.

I have experienced mishaps with my automobile, firstly through imagining that because I had gone through the experience of handling a locomotive I did not require any training to manage an automobile, and secondly because the machine I tried to run was evidently designed by bicycle draftsmen who had no idea of the conflicting strains which a four-wheeled vehicle would be subjected to, and because they had no idea of arranging the mechanism so that it could be reached conveniently. In going through the practical experience which taught me that an automobile differed from a locomotive in requiring to be steered, I made some exciting escapades into fields, fences and vacant lots, and once was accused by a suburbanite of attempting to make my automobile climb one of his shade trees. It is enough to say that I paid for my experience.

It would be too long a story to describe all the mishaps that the automobile inflicted upon me, although I might do so without embarrassment as I was in no manner to blame for most of the troubles that I endured. But the most impressive lesson that I received was, that the automobile as turned out from many factories is still experimental, or at least in the course of early development. The automobile was the first medium of mechanical power transportation tried on land, and more than 100 years have passed since its first progenitors tried their power on country roads, and made the rustics imagine that his Satanic Majesty had taken to the road, and that he moved in a blaze of fire and thunder.

The path of the pioneer automobiles was made rugged by popular prejudice and by the prophylactic tendencies of mankind; but the real cause of the early failures of automobiles to work into favor was their habit of breaking down on nearly every journey undertaken. It

is a historical fact that one of our pioneer railroad passenger departments advertised that they always put a car loaded with cotton between the locomotive and the passenger cars, to protect the passengers from injury when the boiler exploded. Boiler explosions were not advertised as a matter of course, but they were not by any means unknown to the pioneer automobilist. Their favorite source of excitement was a broken axle which gave the outside passengers more acrobatic experience than they were prepared for. A man who lost



W. J. Stewart Autocarring Through Orange Mountains

the greater part of his nose by being thrown from an automobile, was not likely to become a friend of that line of progress.

When early automobilists were frozen out of business, the locomotive designed to run on rails began offering its services to people with peripatetic tendencies, but it was a long time before it became a reliable prime mover. The pioneer makers of locomotives, like their friends who came to grief in the automobile field, were a long time

in learning to make their machines capable of enduring the strains that resulted from jolting over a rough track. The designers of early transportation motors established their dimensions according to the proportions of prime movers that were bolted to a rigid foundation, and for a long time they failed to perceive that a liberal margin of strength was necessary to withstand the jolts and endure the endless vibration a moving vehicle encountered.

Twelve years after locomotives were working on English railways, a report was made to what was then the principal railway in the world, that locomotive power was more costly than that of horses, and bitter complaints were made about the unreliability of the engines. Nine years later, Pambour, an eminent engineer of the time, wrote that the engines belonging to the Liverpool & Manchester had to be practically renewed after working about a year, during which period they ran little more than 20,000 miles. It is well known that during the first few years of experience with locomotives in America, the companies were in the habit of advertising that their locomotive engines would pull the trains when the weather was fine, but that when it stormed horses would be employed. The precious locomotive was too delicate for being outside in stormy weather.

The pioneer locomotive designers could have given the modern automobile draftsmen pointers about inconvenient arrangement of parts. I once ran a locomotive that was built never to break down. It did break very frequently and the boiler had to be cut away from the frames before the valve mechanism could be taken down. Two Fairlie engines built in England were bought by the Denver & Rio Grande Railroad Company about thirty years ago and it was necessary to cut off part of the frames before a boring bar could be used to bore out the cylinders. Those were double ended locomotives with two smoke stacks, two boilers, two sets of valve gearings, in fact nearly everything double except the man who handled them.

A stove committee yarn is told about one of these engines which will bear repeating. The American engineers objected to running these engines and an Englishman who happened along looking for a job was hired as engineer. He worked the engine as pusher on a steep grade away from headquarters and one day he committed an offence for which he was to be suspended for ten days. 'An engineer was sent to take his place. The good natured Englishman did his best to explain the working of the Fairlie to his locum-tenens, pointed out the cups and oil holes to be served, the bolts likely to work loose

and explained the use of the various levers, rods, handles and strange looking appliances. When he finished, the substitute took up his bundle of overalls and remarked "Now my friend, you keep on running that engine and I will take the ten days."

British locomotive builders have not had a monopoly of building engines that were awkward to repair. Not long ago a group of engines were built by a New England railroad and they had to be jacked up so that the side rods could be put up or taken down.

There are locomotives in service today that require the leading truck to be dropped in order to reach the main valves.

Awkward designs of that sort are rare with locomotives but they seem to be common to automobiles. The cause of this is that the designers of automobiles are blundering into experience. If the users will be patient they will find perfected machines offered for their use in a few years.

A Day at Gettysburg

By CHARLES E. DURYEA



IN early boyhood I read *Porte Crayon's* delightful descriptions of Virginia and ever since there has lingered with me a desire to see those beauties for myself; so when last October brought fair weather, some spare time and a vehicle, wife and I lost no time in pointing the steering wheel southward. We had no definite plans but started for an outing the duration of which should be dependent only upon the weather, the spare time available and our own pleasure.

We followed a turnpike through the Lebanon Valley to Harrisburg where again we found a pike leading down through the Cumberland Valley which we followed as far as Carlisle. From this point we turned southward toward Gettysburg, the first ten miles being over

a poorly kept pike paralleled by a trolley car line as far as Mt. Holly Springs, ten miles nearly due south. This section of country is undulating but has no steep hills and may be traversed in any weather because of the firm surface of the road.

Mt. Holly Springs nestles at the foot of a range of mountains and is apparently a picnic ground and summer resort, by the side of which a picturesque little stream wends its way. Thus far we had followed the Carlisle and Baltimore turnpike, but here we turned to the right following the stream toward the southwest which carried us through mountainous country somewhat heavily wooded.

The road now became an almost continuous series of grades interspersed frequently with small collections of houses only large enough to support a combined store and post office. In many places the surface of road was hidden by a carpet of pine needles over which the vehicle ran as softly as if on velvet. The many windings of the road destroyed all idea of direction and after the sun had set behind the mountains we were not always certain which was the way to turn at the various forks in the road, some of which were provided with signs contradictory to other signs not far away.

After several experiences with such misleading signs, read by holding a match up in the front of them, we reached Bendersville where we were assured of decent lodgings and stopped for the night. The carriage was immediately surrounded by almost the entire Bendersville population who turned out to examine the first "go devil" seen in that locality. Sharp appetites caused due appreciation of the good meal set before us, and the quietude, together with the mountain air, was conducive to sound sleep.

On looking out next morning we found the vehicle again surrounded by a curious crowd studying in daylight the mysterious affair of the night before. A leak from the water piping kept them all at a respectful distance under the belief that it was gasoline and might take fire at any minute, while many of them were quite certain they could smell the odor of gasoline arising therefrom, and it required a lighted match dropped into the nearest pool on the ground to convince them of their mistake. From Bendersville nearly due south to Gettysburg, the road, although supplied with a sufficiency of grades, was not mountainous, while its surface was generally good. It was ten o'clock when we saw Gettysburg in the valley ahead of us and shortly afterward we were upon one of the avenues of crushed stone which connect the various objects of interest on the famous battlefield.

We had imagined a wooded hillside as the battlefield but, like most imaginary pictures, this one was entirely wrong. The grounds over which the first day's battle was fought are now largely free from woods while a line of monuments along the beautiful avenue marks the positions of the various bodies of troops. Leaving the Carlisle road we followed the avenue to the west and climbed the northern end of Seminary Ridge where much of the first day's conflict occurred. Here a steel tower rises above the trees and permits a view of the surrounding territory, giving one a grasp of the situation impossible to obtain otherwise. After driving along the northern end of the Ridge we retraced our way to the southeast to Barlow Knoll: the scene of another unsuccessful stand in the first day's battle.

From here we followed the Harrisburg road into the village, overtaking a single horse and buggy driven by two women. After many gesticulations they drew up at the side of the road and waited for us to pass, which we did cautiously so as to avoid scaring their horse. The trouble with this animal, however, seemed not to be



Under Culp's Hill Tower

fright but disinclination to proceed, and for some minutes after we passed the women could be seen coaxing him to move, even going to the extremity of trying to lead him, and finally they did succeed in getting him to proceed once more. Such whims do much to destroy the mental picture of the horse we formerly admired, and teach us to be patient when the motor, never without some good and sufficient reason fails to do its duty.

Being nearly noon, we stopped at "the only temperance house in town" where we enjoyed a good dinner, after which we started for the scene of the second and third days' engagements. We proceeded southeast following a beautiful avenue which slowly wound around and up to the summit of Culp's Hill on which another steel tower gives a second view, more beautiful than the first because of the nearness of the cemetery and the village. This hill is almost free from monuments, but the clear air, the bright sunlight upon the autumn leaves and the general diversity of the surroundings made a picture long to be remembered.

Here we saw a number of those splendid soarers, the turkey buzzards, not beautiful in appearance but fascinating in their motionless flight, as if by it they were attempting to show mankind how easy it was to utilize the force of the wind to annihilate distance without labor. After enjoying the scene until we were uncomfortably cool, we descended from the tower, took a snapshot of the only monument near and again started. With a beautiful descent before us it was not necessary to employ the motor, so we allowed the vehicle to coast along the winding curves toward the Cemetery through the gates of which we were soon passing.

Here is a beautiful stretch of ground dotted thickly with varied monuments in memory of those whose sacrifice largely determined whether the Civil War should be carried into the North or not. The magnitude of this sacrifice became more apparent when we looked at the number of graves and thought of the 180,000 men engaged in that three days' conflict in which more than 40,000 were killed or wounded. This appreciation was further heightened as we left the Cemetery and proceeded along the hotly contested battlefield toward the "Round Tops," still higher elevations to the southward.

Here the country is not only rougher but many rocks and boulders are found, while in the valley at the foot is the Peach Orchard, the Wheat Field and Devil's Den; scenes of fierce fighting seldom if ever equaled. "Big Round Top" is so steep that only

foot paths reach its top. From here the view is more magnificent than ever and it was with regret that we accepted the warning of the lengthening shadows and again moved forward and downward.

We next crossed the valley following the beautiful avenue to the southern part of Seminary Ridge along which we proceeded north on the drive, the total length of which was nearly 20 miles. From Seminary Ridge a beautiful view is had westward and northward toward the mountains from which direction the Confederates came, and eastward over the valley in which the hard fought battle eventually



On Seminary Ridge

took place. A few old cannon, sleek and peaceful looking, call feebly to our minds the fierce scenes enacted there, but the general impression made upon us was one of beauty and a stronger realization of our obligations to the men who on that ground so nobly did their part that we might have peace.

As the sun lowered the wind increased, carrying up the western side of the Ridge clouds of copper-colored dust which the long spell of dry weather had allowed to cover the roads, and into this we turned westward towards Hagerstown. So thick at times was this dust that

we simply could not see anything, while at the same time the wind resistance was so great it could be felt checking the progress of the vehicle despite its high power and the down-hill direction in which we were traveling.

We chose the western route toward Waynesboro instead of the southern one toward Emmitsburg, and along it we were soon again passing through the Blue mountains.

The road as it became less traveled became more picturesque. It narrowed in many places to but little more than a ditch, and quite frequently we wondered how we would ever be able to pass a team in case of meeting one ; a question we fortunately were not compelled to answer. At the village of Fairfield the single street was lined with farmers' horses which seemed to pass the word along and take fright simultaneously. We proceeded slowly, but in spite of this, we were obliged to unhitch one horse from his vehicle before we could pass without danger. This was by long odds our worst experience with scary horses and can only be explained on the theory that the animals had entered into an anti-automobile conspiracy.

A little later we came to a pike which, having a hard surface, afforded us relief from dust and ditch driving. Along this road were two or three Summer resorts beautifully located amid picturesque surroundings. After passing Charmian the road rapidly descended, winding around a number of sharp corners with steep mountains on one side and a deep ravine on the other, across which could be seen a beautiful valley. Although this was a toll road but once only were we asked to pay for its use ; no ruling apparently existing regarding automobiles. The five miles across the valley to Waynesboro were quickly covered. From here we once more turned southward and arrived in Hagerstown shortly after dark.

Our trip from Carlisle had taken slightly more than a full day, each moment filled with the beauties both of Gettysburg and of the mountains.

While Gettysburg may be reached more directly from Philadelphia, via Lancaster and York ; our road, via Reading, Harrisburg and Carlisle is commended because it offers a change of scenery, besides permitting of a circuit being made which is, of course, much preferable to returning by the same road. With the exception of fifteen or twenty miles between Mt. Holly Springs and Gettysburg, which could be avoided by going another way, the roads are hard and therefore not likely to be rendered impassable by a rain storm.

From Hagerstown we went to Antietam, spending some time on the battlefield there, and thence to Harper's Ferry, Charlestown and Winchester, each of which offer scenes of much beauty. Returning, we came via Martinsburg to Hagerstown and from there straight on up the Cumberland valley, passing through Chambersburg, Shippensburg and Carlisle *en route*. The roads were found to be quite good for a high-powered vehicle, particularly one of light weight provided with good brakes. We were advised that a splendid pike traverses the Shenandoah valley as far as Staunton and probably further, but lack of time prohibited us from investigating this, much as we wanted to.

The foregoing fragmentary account shows that this section is an excellent one for automobile touring, not only on account of the beautiful scenery among the mountains, but of the historical interest as well, of the territory traversed. Much of the rush of the North is absent south of Mason and Dixon's line, where the inhabitants grow old without effort. They are not worried as to how to pass the time elapsing between birth and death, they simply sit still, enjoy the sunlight and the scenery, and let time go by.

We reached home eight days after we had left it, with many pleasant memories of our outing, particularly that portion of it spent in and around Gettysburg. Perhaps I can give no better proof of how much we enjoyed ourselves than to say that already we are planning a much longer trip of the same kind for next Summer.



Long Island's One-Hundred Miles

ARMED with the knowledge begotten of experience in planning and carrying out the first endurance run held in America, the Long Island Automobile Club believes that no adverse climatic or other conditions can defeat it on the occasion of its second annual 100 miles, no-stop run which is announced for April 26. In connection with the hundred miles a hill-climbing contest on Roslyn Hill is billed as a portion of the affair.

President William Wallace Grant has named a special committee to conduct the event, consisting of the Board of Governors, the Technical Committee and the Good Roads Committee. This places the preliminary and final plans in the care of a number of the members who were instrumental in making the 1901 event the success that it was. Awards will be on percentage basis and certificates of efficiency will be given; silver cups will be awarded to the winners in the hill-climbing contest.

A special dispensation will be granted to steam vehicles to stop and take fuel, water and gasoline. Hitherto steam vehicles were unable to compete in these tests because the contestants were penalized for all stops. This year there will be stations twenty miles apart, at which steam automobiles may stop to take aboard fuel without being penalized.

In the classes for steam and electric machines all powers and weights will be recognized as on a par. The gasoline machines only will be classified according to weight. Those under 1,000 pounds will form one class, those between 1,000 and 2,000 pounds will be kept distinct, while those weighing more than 2,000 pounds will be in a separate class. Either professionals or amateurs will be allowed to operate.

Stops required for personal and public safety will not be counted against a vehicle, but when a stop of this kind is made it will not be permissible to do anything in the line of tinkering with the carriage. The driver may not even relinquish the steering gear.

The course will be virtually the same as that of 1901, and the legal speed limits of 8 and 15 miles will be strictly adhered to. Any attempts at scorching will result in prompt disqualification as it did in 1901.

From Earth to Air

JUST why the automobile should be the preparatory school for the balloon is not easy of explanation. From Santos-Dumont down, or up, there is not to-day a single aeronaut of advanced achievements who, before his efforts were turned to navigating the air, did not fly over the surface of the earth behind the steering wheel of an automobile. If any explanation be possible, it is perhaps due to the insatiable desire of the expert automobilist to go faster, yet faster and faster, ever faster. Laws, civil, mechanical and others, place a limit upon his speed on the earth's surface. His eyes turn heavenward and there is the broad expanse of space ; ungov-



The Fair Samaritan of the Sleds

erned, untravelled, unhampered and unfilled. From that moment the charms of automobiling pale into insignificance and the possibilities of aerigation become all possessing. Among the latest graduates from terrestrial traffic to aerial is M. Girardot, the unlucky hero of many a hard fought automobile race. M. Girardot will brave the dangers of mid-air with an airship fashioned after the model of a submarine boat, with an aluminum car in its center, the entire affair being driven by an explosive motor and a large propeller astern. For his sake and for the hitherto good repute of the motor propelled balloon it is sincerely to be hoped that M. Girardot's ill luck will not mount upward into space with him. Motor accidents on land are bad enough ; but a mile above it—well, they are not likely to become continuous performances, that's all.

A. C. Calls for a National Organization

GRACEFULLY acknowledging that its plans for a national organization of those interested in automobiles and their use were not universally favored, the Automobile Club of America, as befits its high position, adopted the following resolutions at the last meeting of the club's Board of Governors:

Whereas, The club's efforts to form an affiliation with other clubs in this country has not met with a sufficiently cordial acceptance, and

Whereas, It has met with very considerable opposition by a number of leading clubs; it is therefore

Resolved, That the affiliation as proposed be abandoned and the president is instructed to cancel the agreements made with these clubs who have already signed, by giving them 3 months' notice, or to cancel them at once by mutual consent.

Resolved, That this club suggests to the clubs who have refused affiliation (nameiy the Automobile clubs of Chicago, Massachusetts, Long Island, Rhode Island, Philadelphia, and Worcester), that they, with ourselves, call a convention of 2 delegates from each club, to be held in Chicago during the month of March, that convention to organize a national association.

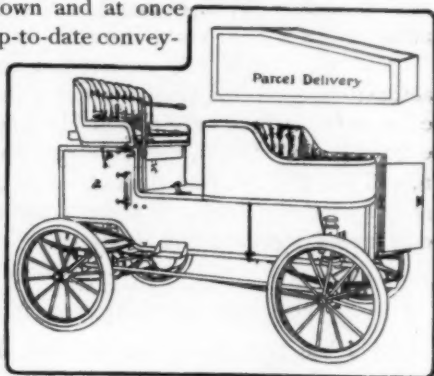
The way is now clear for the prompt formation or recognition of some form of organization which will be as broad as the country whose name it will bear, and as powerful as the objects which it will be pledged to uphold.

To Dine in Good Company

The third annual dinner of the Automobile Club of America will be held on Friday evening, March 7, in the Waldorf-Astoria. The club has extended invitations to M. Jules Cambon, Ambassador of the French Republic; the Chinese Minister, Wu Ting Fang, both of whom are enthusiastic automobilists, and also to the Governors of New York, New Jersey, and Massachusetts, Mayor Low of New York, Gen. Nelson A. Miles, Senator Depew, Senator Platt, Thomas B. Reed, William C. Whitney, Gen. Avery D. Andrews, Samuel L. Clemens, Frederick Nixon, Speaker of the Assembly; Jacob A. Cantor, President of Manhattan Borough; Assemblyman Allds, Simeon Ford, Edward A. Bond, State Engineer; Henry I. Budd, Commissioner of Highways of New Jersey; John R. Hegeman, Thomas A. Edison, and Martin Dodge.

Any Motor or Any Purpose

IN the newest product of the Steamobile Company the favorite tonneau has literally as well as figuratively been brought right to the front. As will be seen by the drawings the passengers are placed where they may enjoy some of the pleasures of riding with very much less of the discomforts thereof than was formerly the case. When the owner of the new vehicle finds trade treads upon the heels of pleasure, and business not enjoyment must be the purpose for which the vehicle is employed, he removes the passenger tonneau, replaces it with the body shown and at once the carriage becomes an up-to-date conveyance of the light express wagon type. With a wheel base of six feet, tread of four and a half feet, 36 gallons of water and 12 of gasoline, the vehicle weighs 1400 pounds. While the motive power is steam the vehicle has been so designed that with but little expense and trouble either an explosive engine or an electric motor can be readily substituted.



There is Danger in this Measure

There has been introduced at Albany a bill which provides that it shall not be lawful for any person to operate or manage any boat, launch, vessel or engine, the motive power of which is gas, oil, naphtha, or electricity, without qualifying as an engineer. While at first glance this seems to be a strike aimed more particularly at the owners of launches, yet, should the bill become a law, the incorporation of the word "engine" in its provisions might quite easily be used to force every owner of an automobile to either qualify as an engineer himself or else hire some one who had qualified. On general principles the bill should be defeated, and to make this a certainty the representatives of the automobilists should exert their influence and well proven ability against the measure.

More Macadamized Roads Planned

AS a direct result of the demand for good roads, created and fostered by the automobile owners and users, a meeting of the American Roadmakers of Macadamized Highways was held in New York on February 13. Representatives of 27 States were present, and the following officers were elected:

Henry S. Earle of Detroit, Mich., president; Edward A. Bond, State Engineer of New York, first vice-president; R. H. Thompson of Seattle, Wash., second vice-president; C. P. Rodgers of Houston, Texas, third vice-president; William L. Dickinson of Springfield, Mass., treasurer; W. S. Crandall of New York City, Secretary; and Martin Dodge of New York, Director of Public Road Inquiry.

It is the plan of this organization to agitate the idea of having macadamized roads constructed between the capitals of each State in the country. These inter-capital highways are to be constructed at the expense of the States, the various communities through which they run, and the Federal Government, on a basis which will make the cost fall equitably upon all those who are directly benefitted by the improved highways thus produced.

Making Scorching a Misdemeanor

A bill has been passed in the New York State Senate which amends Section 666 of the Penal Code in such wise as to make that section declare that:

Any person * * * who drives or operates an automobile or motor vehicle, whether the motor power of the same be electricity, steam, gasoline, or other source of energy, upon any plank road, turnpike, or public highway within any city or incorporated or unincorporated village, at a greater rate of speed than eight miles per hour, except where a greater rate of speed is permitted by the ordinance of a city, or upon any plank road, turnpike, or public highway outside of any city or incorporated or unincorporated village, at a greater rate of speed than twenty miles per hour, or upon any bridge at a greater rate of speed than four miles per hour, is guilty of a misdemeanor.

The intent of the Senate bill is to make fast and reckless driving of motor vehicles punishable by imprisonment. The infliction of fines has been proved by experience to be an inadequate deterrent to the scorching proclivities of a few owners of high-powered vehicles, and while the new law is not all that might be desired it may accomplish what its friends say that it will.

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The Everyday Automobile

AS long as there is a sufficient demand for high powered touring cars and racing machines to keep manufacturers busy, the everyday automobile must take a back seat and wait until the novelty or "fad" subsides. But the future of the automobile industry does not rest with the special machines mentioned. The touring car can be likened to a "demonstration vehicle," illustrating to the country at large that motors can be successfully used for such work, while the racing end of the business will always have a following.

The future of the industry, however, must come from the everyday automobile and the business motor wagon. The average man or woman would be practically satisfied with an automobile which would serve them as well as a good carriage horse and at the same time be free from his objectionable points. The horse, if a good one, gives fairly good satisfaction as to speed on public highways, and is fairly

reliable, probably as much so as the average motor. His one great drawback is that he has the annoying habit of requiring just as much care and food when he is idle as when working, and this fact alone prevents many of the great middle class from keeping a horse. They do not mind caring for him when they want to use him but object to playing coachman six days a week for the sake of driving a part of the seventh.

The motor vehicle meets these objections exactly and when manufacturers get down to business and begin to build everyday automobiles their use will increase many fold. It must be remembered, however, that to completely meet the requirements of the average person the motor must be as capable of use in all kinds of weather as the carriage is, and must be so constructed as to readily lend itself to being enclosed in storm to protect all the occupants. The question of speed and power will settle down to a fair average with probably twenty miles an hour as the maximum and power enough to carry you anywhere you care to go at speeds depending on the condition of road and grade.

The everyday automobile will be the backbone of the industry inside of three years.

The Arrogant Motorist

A HEAVY affliction which many owners of automobiles are suffering from is the chauffeur, or motorist as he ought to be called.

Many people who are fond of automobile sport, do not like to do the work of caring for the machine and keeping it in working order, and so they employ a man whose duties are similar to those of a coachman but he must understand the mechanism of the automobile and possess the mechanical skill necessary to effect repairs. It is easy hiring a man who can handle a machine, but to find one capable of making repairs is another matter, and it has become common to hire machinists as motorists and that individual is causing no end of trouble to his employers. A machinist is a sort of aristocrat among artisans who may sometimes be induced to accept good wages and a comfortable position as motorist when the duties are confined to operating a machine and keeping it in repair; but he scorns to perform anything which he considers menial duties, and here friction between him and his employer generally results. Employers of motorists as a rule think that keeping the carriage clean,

charging the water and gasoline tanks, filling the oil cups and seeing that no matter out of place is present to interfere with the operating of the machine, are among the duties of the man they have hired, but they frequently find that their motorist is as intractable as a spoiled cook.

Wherever automobile owners congregate, for social intercourse, and for the exchange of motoring romances, the motorist soon becomes the subject of conversation. His whims, unreasonableness and shortcomings form a fertile subject of conversation, and the lords of creation find as many grievances to complain of about the motorist as the lady presiding over the household has against maid servants. Here are the words of a complaint as expressed publicly at a club meeting. "I hired a machinist as chauffeur and he handled the automobile very well but he would not clean it, would not wear livery and wanted others to have the machine ready for starting. He thought that his entire duties were performed when he handled the vehicle and kept it in working order. I made the coachman wash and clean the machine which caused much heartburning, then the motorist objected to the way the coachman did the cleaning and washing and demanded that the work should be done by the house servants. These rebelled and I had to let the man go." That is a fair specimen of many other tales of woe daily told.

It seems to us that the remedy for this source of inconvenience and annoyance is the training of a class of men capable of filling the portion of motorist. It is not more necessary that a motorist should be a machinist than it is for a coachman to be a horse shoer or veterinary surgeon. Very few locomotive engineers or stationary engineers are machinists, and the men so employed perform the duties of keeping the engines in good working order just as well as machinists could do. Any intelligent American could easily be trained to do the work of caring for an automobile. He could perform the duties as efficiently as the locomotive engineer does his work, which is quite satisfactorily, and if he understood from the start that the duties of a motorist included keeping the machine clean the work would be done as a matter of course. Training schools ought to be established where men could be instructed in how to manage and how to care for all sorts of automobiles. Under efficient instructors the duties could be learned in a few weeks, and for a man of natural mechanical ability proficiency could be attained in a few days. If such schools were established many automobile owners would take a

course of instruction and the information obtained would save them no end of trouble on the road. Trifling disorders frequently make automobilists lose the pleasure of a whole day's outing which could be prevented by a little elementary knowledge that it would be the duty of a training school to impart.

Correspondence schools are springing up all over the country where people belonging to nearly every trade and occupation receive instruction concerning the principles underlying their business and in some cases details of their work. It seems to us that the ordinary automobilist is a good subject for the attention of a correspondence school. Their instructors could inform scholars concerning the construction and operation of the various machines, point out the difficulties most likely to be encountered and explain how they could be most easily remedied. The annoyance that would be prevented by such a course is well worth performing some labor to acquire.

Colorado Needs Educating

General William J. Palmer, a wealthy Western millionaire, recently offered the city of Colorado Springs a park site. To emphasize his anti-progressiveness, the General inserted the following clause in his deed of gift:

"Until horseless carriages shall be improved so that they are as noiseless and odorless as horse-drawn vehicles, horseless carriages shall not be permitted to enter or travel over or through any portion of said property herein conveyed for purposes of a park."

From the foregoing one must conclude that the General never saw an electric vehicle, or else he intends to make his proposed park a special haven for nervous animals and incompetent drivers. Of course, even a Colorado general does not expect to stay the onward progress of the motor vehicle, and why he should thus foolishly attempt to encourage the use of animals, unable like himself, to recognize the inevitable and become reconciled to it, is beyond the comprehension of anyone who is not himself a Colorado general.

Automobiling in its best bib and tucker assembles in Chicago on the first day of March to see and to be seen. Greater even than the horse show is the importance of this show to those who flock to it. Architecturally and otherwise the horse has not materially changed since the year One; as he was when Caligula deified him so he is to-day when Casey drives him. With the automobile all this is

different. The vehicle of a twelve-month ago is so woefully and palpably a relic that it is as friendless as a defeated politician, while its successor of to-day is seemingly so perfect that everyone is its admirer. Thus an automobile show assumes an importance in the eyes, not only of those who own automobiles, but of those who want to own them—which is but another way of saying everybody—that no tan-bark parade of pampered beasts can ever hope to maintain. Chicago has planned and perfected and advertised her Automobile Show in that thorough and aggressive manner which has made her famous the world over. Chicago has earned success and she will receive it. The man who owns an automobile, the man who makes or sells an automobile, and the man who desires to either buy, sell or own an automobile should visit the show, and all the indications are that he will in the present instance do exactly as he should.

If, as now seems likely, the affiliation idea has been safely laid away upon the shelf, labeled, "Tried and found wanting," a distinct advance toward a satisfactory solution of the question all thinking automobilists are asking "What shall we do to be Saved?" will be assured. Perplexed motor vehicle owners are seeking for salvation, not only from their enemies, but from the differing brands of salvation offered by their friends. The passing of the affiliation idea will make certain the much to be desired end. Upon the foundation so wisely planned and well laid by the Automobile Club of America it will be no difficult task to erect a really national organization which will be all that its name implies. We shall indeed be disappointed if the close of the Chicago Show does not see plans at least begun for such a representative organization as the importance of automobiling merits.

If even a very small proportion of the plans of the recently held New York State Good Roads Convention become realities the millennium of Macadam will certainly have dawned. For less than six cents added to each \$1,000 of taxation, the State could secure 1,250 miles of improved macadam roads and in seventeen years would have entirely paid for them. Long before that, however, the increased value of all property in the State, brought about by such a practical solution of the traffic problem, would have paid for the improvement several times over. Viewed from an automobilist's point of view the

entire plan is so self-evidently a wise one that it seems impossible of failure. Unfortunately, however, intelligent and progressive citizens like the automobilists do not have much to say regarding the legislation of this or any other State ; we only wish they had.

Taking into consideration the fact that the opening event of the Automobile Club of America, the non-stop hundred miles, is to be run on Decoration day when the G. A. R. and other patriotic organizations are very adverse to any affair having a sporting aspect, it would be well to take particular pains to avoid any cause for complaint. To this end it would be a wise regulation to impose upon all contestants that no vehicle geared for a speed in excess of 15 miles an hour be allowed to compete. This would keep the event well under the requirements of the law while at the same time it would not rob it of any of its desirable features. If some such check is not put upon the affair it will degenerate into a speed contest to the injury not only of the club but of the sport as well.

The automobile is a very successful index to fools. When ordinary persons find themselves in charge of one in a crowded thoroughfare, they guide the machine as carefully and cautiously as they can, avoiding accidents to other vehicles and to pedestrians. The fool acts differently. He imagines for the time that all the earth, particularly the roadway, belongs to him and that people are watching intently to see him perform. Having in hand a vehicle with speed capabilities, he proceeds to show them off with reckless disregard of other people's rights, safety and comfort. The fool with selfish proclivities is the person who is bringing the automobile into disrepute and who is aggravating rustic legislators into enacting laws that work to the inconvenience of all automobilists.

Never was the need of a strong national automobile organization more plainly shown than in the course of events at Albany. The "black horse cavalry," that powerful band of political mercenaries, has become possessed of the idea that the automobilists are a distinguished body of wealthy enthusiasts to plunder whom is to the cavalry leaders both a pleasure and a duty. Until the automobilists can present an unbroken front and by the prestige of a national organization defy these legislative forays the attacks will continue each year, and grow more exasperating and more expensive as they occur.

By a recent decision of the Paris courts a horse has no right to become frightened at an automobile. A young man's horse unacquainted with this shied at an automobile and in doing so unseated and killed his rider. The horseman's mother sued the owner of the automobile for \$20,000 damages for the loss of her son. The court declared that the owner of the automobile was not responsible, because all horses should be accustomed to the noise of motors and the sight of vehicles propelled by them. This ruling is one that the law givers in this country might copy with advantage to all concerned.

To the disgrace of New York, be it said, that it is the only great city in the world which has no avenue set apart for light vehicles. Once more an attempt is being made to prohibit trucks from using Fifth Avenue during certain hours when the street is most crowded with carriages. Like its predecessors, the attempt is fore-doomed to failure. In this land of the free and the home of the (Tammany) brave, the truck driver is mightier than the millionaire in such matters as this.

Iowa laws require all packages of gasoline to be labelled. By a recent decision, the seller of an untagged jug of the fluid must pay the damages caused by an explosion following a girl's attempt to quicken the kitchen fire. This means that the automobile driver who persists in smoking when he is filling a fuel tank is due to have more trouble in Iowa than elsewhere. If he isn't fired he will be fined.

More than one thousand thoroughbred yearlings were sold in New York city last year for an average price of over \$800. Good! Not quite that many thoroughbred automobiles were sold during same period, but the average price was considerably higher than that of the yearlings, however.

We recently visited a well patronized storage station with the greatest and best collection of notices and mottoes requesting its visitors not to smoke that we have seen. They were courteous, pithy, and to the point, but—the proprietor himself was smoking.

It was once a problem how to mix oil and water, it is so no longer. Any country dealer who sells an automobilist gasoline knows all about it.

Woes of One Automobile Man

By THE SENATOR

TRAVELING one meets with some queer people, hears some queer stories and sees some funny things done, but about the most entertaining individual I have run across in a long time was in the mill town of Holyoke, Mass., recently. He is a bicycle agent and, like a good many bicycle agents, he understood how to build a steam carriage, and this is the story of his woes as related by himself to me.

Said he: "I got the automobile fever and made up my mind I would build one, so I went to New York and bought about \$300 worth of parts from one of the supply houses, including a second hand engine. Getting them to Holyoke, I started in to build the vehicle. After finishing it, I found that I had forgotton to measure the width of my door, and could not get it out. I was in a terrible state, and didn't know what to do, but fortunately, there was a runaway, and my big plate glass window was smashed, and I got it out through the window." The writer queried whether he considered the smashing of the window a "fortunate" thing, and the auto-builder concluded it was, even though he did not get any damages, because it enabled him to get his automobile out. "After I got it out," said he, "the man who built it with me went for a run, and showed it was all right, so I asked him to get up steam the next day and we would go to Springfield, and then my troubles commenced anew. The blamed thing would go only a half a block at a time, and then we had to wait for steam, after we had got a half mile or so, I walked back home and told the other fellow to get it back the best way he could, which he did with the aid of a team. I was so mad I took it to pieces, and advertised the boiler and engine for sale, eventually selling them to some fellow out West, who after seeing same, said he would not pay the \$125 I asked for them, but after a time he sent me the money.

"I next built a gasoline carriage and that would not work, although I had a Crest motor which was all right, but I have not had a mile run out of either of these vehicles, and still have the gasoline carriage which I hope to unload in the Spring on someone." The above is a case of not knowing how to do it; and undoubtedly there are several others having run up against the same thing, who now believe that it is quite a different thing to build a bicycle and an automobile, and that there is considerably more to the latter than the former, in the way of construction and knowledge required.



(We desire those interested in both the manufacture and operation of Automobiles to send whatever they think may be of interest to our readers.—EDITOR.)

Why Steam is Preferred

I WANT add my mite to these pages of the AUTOMOBILE MAGAZINE from which I have derived much pleasure and instruction in reading. To begin with I am a believer in the steam vehicle. I have made the steering and control of this my especial study, so perhaps the results of my having done so will not prove uninteresting to your readers.

For our rough roads I think the gasoline explosion engine is too easily put out of order to be really useful, except in the hands of a driver who is an expert mechanic, who has made an especial study of the mechanism of his vehicle, and is able to make the necessary repairs. This means that the owner must either be such a mechanic himself or else must take with him on his rides some one who is, besides having such a man always in his employ, a thing very few men can afford.

A steam vehicle has no governor, or half-time gearing, no spring-controlled valves which have to operate with the greatest speed and accuracy—no change-speed gears and clutches—no electric apparatus.

In short, it is about as simple as a piece of mechanism can be. Its weak points are the possible danger from fire and the necessity of frequently renewing the water supply. The former will be largely done away with by use of kerosene oil instead of gasoline and the latter by the use of a condenser. Both these improvements are now being experimented with, and I think a year hence will be largely used.

As to the control, I think lever-steering in any form is inferior to a wheel and a worm-gearing. If the vehicle is light a very quick

pitch screw can be used, which will give as rapid movement to the front wheels as is safe to use—and if the vehicle is heavy a more gradual pitch can be used as it is on the large French machines, which are steered through the streets in Paris even at high speed.

A screw, even if the pitch is very steep indeed, gives irreversible steering, and is the steadiest kind of steering for high speed. Then, as to the other parts of the control mechanism, viz., the throttle and reverse levers—and the brakes—I am of opinion that many makers regard the reverse lever as a mere adjunct for occasional use only—since they put it in places which are hard to get at. The reverse should be regarded as an emergency brake, and should be as easy to get at as the throttle lever itself.

Then as to the brakes themselves, most makers fit a single band brake on the differential gear-box.

When this brake is forcibly put on it has to control one driving wheel entirely through the gears in the box, which brings a heavy strain on the gear teeth, and moreover if both driving wheels do not have the same grip on the road, it causes the vehicle to skid sideways. Two drums should be used, on the wheels themselves, or as near to them as possible, and there should be a ratchet or latch to hold the brake when applied, so the vehicle can be left standing on hills. The brakes should hold with equal power backward and forward, which very few do now.

BROOKLINE, MASS.

ELLIOTT C. LEE.

Oil versus Gas

I AM seeking more light. This search is literally, as well as figuratively, true. I have been trying to secure a sufficient illumination by burning kerosene in some of the best as well as in some of the worst lamps made for that purpose. In both instances the results have been so unsatisfactory that I have almost made up my mind that automobiling after dark is too strenuous and too nerve-wrecking a performance for a middle-aged man to indulge in, unless he can "let his light so shine" that he can see and be seen at a greater distance than I have heretofore been able to do with kerosenic illumination.

There is only one thing left for me to try before I give up the effort to make after-dark use of the automobile a safe and a pleasurable performance, and that is acetylene. Now, what I want to know

from some one who has had the experience is, will the acetylene lamp do what its admirers claim, and is it worth the trouble of caring for which its enemies talk so much about? Understand, I do not object to paying the price, if the purchase gives me an illuminant which has a few of the essentials of an automobile light. Among the most important of these, I believe are, first, that it will remain lighted under service conditions; second, that the power of light shall be sufficient to illuminate the road far enough in advance of the vehicle to enable the driver thereof to see and act upon an emergency before it is too late; lastly, it must not be so complicated as to require an expert to use or care for it. Now, do you think the acetylene lamp will come any nearer doing this than the kerosene one does?

"DENISEBROKE," ONT.

R. V. M. SCHUYLER.

The complaints of Mr. Schuyler are in no wise different from those which have been received from others, nor his doubts regarding acetylene at variance with those of other non-users of that brilliant and convenient form of illuminant. Perhaps the best proof of the success of acetylene is that any number of vehicle owners have replaced oil lamps with gas ones, while but very few have supplanted acetylene by kerosene. With a minimum of care the maximum of satisfaction is obtainable from the acetylene automobile lamp, and we have no hesitancy in so advising Mr. Schuyler.

Between Purchase and Sale

WELL do I recall the feeling of innocent glee with which I got up steam in my first automobile. It was a surrey, and I had an admiring crowd. The machine was just off the boat at the wharf of one of our New England cities, and as I think of it now, the halo of verdure that surrounded me, as I steamed away up the main street, must have been as large as a bushel basket.

But, alas! Half-way up that street, where the crowd was the very thickest, the gasoline jet clogged, and in a vain endeavor to remove myself from a not overly favorable band of critics I stripped the teeth out of the differential gear. Suffice it to say, that upon subsequent examination I found the pinions of the differential were of soft brass. There was but one cup in the four ball bearings of the rear axle. The balls in the other three bearings were put into the frame, and had spun their way in beautifully—and I, who pretended to be a mechanic, had bought that carriage!

I was speechless ; not from choice, nor from force of habit, but simply because the English language was never designed for such emergencies and my knowledge of French was limited. I pulled myself together and faced the fact that I had that abortion on my hands, hence it was obligatory upon me to live and learn. In these directions I flattered myself that I had made a fair start.

What I did with and what I learned from an intimate association with that machine, after I got it up to my home in Vermont, would exceed the chronicles of the Kings of Judea. But one bright June morning I bade it a glad farewell, and as I saw it loaded into the cars, the property of a graduate of one of the technical schools, who came up to Vermont and paid cash for it, just as I had done nine months before in Maine, I thought things which are better not written down.

SPRINGFIELD, VT.

W. D. WOOLSON.

Keeping a "Defect" Card

I'M a railroad man and like many of them have felt it my duty, not to mention pleasure, to buy and run an automobile. What kind? Steam, of course—never heard of a railroad man getting anything else.

Now, in railroad work we have "defect" cards for reporting all the defects in cars, etc., and I believe it would pay every manufacturer to send out a similar card (I hear one of my friends say it would need to be as big as a house, but he's prejudiced, had lots of trouble with his machine), but to ease his feelings he could call it "suggestions" instead of "defect."

We might just as well face the truth in this as in other matters. The perfect machine hasn't been built—probably never will be, and if I was building automobiles or anything else I'd send out requests for suggestions something like this :

To Our Customers : We are building this machine just as well as we know how, but realize that it is far from perfect. We believe it will give you good service and guarantee to replace any defective material or workmanship within one year free of charge. But we want to make it better and will thank you to send us any suggestions which you think would improve the machine for your use. Don't be afraid of hurting our feelings, we can't afford to be thin-skinned when it comes to making our machine the best on earth.

I've made up a list about a yard long, lots of which would not be practical from the commercial point of view, but out of the bunch the

manufacturer could find some features that would be worth his while and which he ought to welcome. The maker and user have different points of view about the merits of an automobile and the combination ought to help both.

ROXBURY, MASS.

J. K. WILSON.

Is a Credit to its Maker

THIS rather taking looking vehicle, with the sole exception of the transmission gear, was built entirely by its owner C. W. Kelsey of Philadelphia. Two vertical, water-cooled, explosive

motors are power transmitted spur gear a sprocket. are hung axle and on a coil front. A burettor is gas supply head of the employed regulation. circulated belt-driven speeds for-

reverse, are arranged for. The entire vehicle, all on, weighs only 1,300 pounds.



used for which is with the in place of The motors on the rear supported spring in single car-used, the and the spark being together for Water is by a small, pump. Two ward and

Automobilic Amenities

"They say one should learn automobiling from the mistakes he has made and the foolish things he has done in it."

"If that was so, old man, you'd be one of the world's greatest chauffeurs."

Automobile Club Directory

Under this heading we shall keep a record of the motor vehicle clubs both of this and other countries, and we hope to have the co-operation of club officers in making it accurate and complete.

*Corresponding clubs of the Automobile Club of America are designated thus *.*

Automobile Club of America, S. M. Butler, Secretary, 753 Fifth Ave., New York; representative on International Racing Board, Clarence Gray Dinsmore; Substitute, John H. Flagler.

Automobile Club of Bridgeport, Secretary, Frank W. Bolande, 208 Barnum Avenue, Bridgeport, Conn.

Automobile Club of California, Secretary, R. R. l'Hommedieu, 415 Montgomery St., San Francisco.

Automobile Club of Cincinnati, O., Secretary, Rutherford H. Cox, 30 West Seventh Street, Cincinnati.

*Automobile Club of Columbus, O., C. M. Chittenden, Secretary, Broad Street.

Automobile Club of Hudson Co., Secretary-Treasurer, Frank Eveland, 52 Madison Ave., N. Y.

Automobile Club of Maryland, Secretary, C. W. Stork, care Hotel Altamont, Eutaw Place.

Automobile Club of New England, Secretary, Geo. E. McQuesten, Brookline, Mass.

Automobile Club of New Jersey, Secretary, W. J. Stewart, 8 Central Ave., Newark, N. J.

*Automobile Club of Rochester, Frederick Sager, Secretary, 66 East Avenue, Rochester, N. Y.

Automobile Club of Springfield, Mass., Stephen P. Perkins, Secretary. Automobile Club of Syracuse, Syracuse, N. Y.; Secretary Frederick H. Elliott, 515 S. A. & K. Building, Syracuse.

*Buffalo Automobile Club, Secretary, Ellicott Evans, The Lenox, Buffalo, N. Y.

Chicago Automobile Club, Secretary, H. M. Brinkerhoff, Monadnock Block, Chicago.

*Cleveland Automobile Club, L. H.

Rogers, 357 Amesbury Avenue, Secretary, Cleveland, O.

Columbia College Automobile Club, Lewis Iselin, Secretary, Columbia College, New York, N. Y.

Indiana Automobile Club, Indianapolis, Ind. Secretary, August Kabich.

Automobile Club of Illinois, M. Scott, Secretary, 1251 Marquette Building, Chicago.

Long Island Automobile Club, Secretary, L. A. Hopkins, 1190 Fulton Street, Brooklyn.

Massachusetts Automobile Club, President, J. Ransome Bridge; Treasurer, Conrad J. Rueter; Secretary, L. E. Knott, 16 Ashburton Place, Boston, Mass.

*North Jersey Automobile Club, E. T. Bell, Jr., Secretary, Paterson, N. J. Pennsylvania Automobile Club, Secretary, Henry J. Johnson, 138 No. Broad Street, Philadelphia.

*Philadelphia Automobile Club, Frank C. Lewin, Secretary, 250 No. Broad Street, Philadelphia, Pa.

Princeton University Automobile Club, Princeton, N. J. President, P. Adamson; Secretary, Charles H. Dugro.

Rhode Island Automobile Club, Secretary, Frederick C. Fletcher, P. O. Box 1314, Providence, R. I.

San Francisco Automobile Club, B. L. Ryder, Secretary, San Francisco, Cal.

Worcester Automobile Club, Worcester, Mass., President, J. W. Bigelow; Vice-President, Edwin Brown; Marshal, W. J. H. Nourse; Treasurer, B. A. Robinson; Secretary, H. E. Shiland.

AUSTRIA.

Budapest—Magyar Automobil Club, 31 Museum Korul.

Innesbruck—Tiroles Automobil Club, Rudolph-Strasse 3.

Prague—Prager Automobil Club.

BELGIUM.

Antwerp—Automobile Club Anverso, 34 r. Longue de l'Hopital; Président, Baron de Bieberstein.

*Brussels—Automobile Club de Belgique, 14 Pl. Royale; Moto-Club de Belgique, 152 Boul. du Nord; Touring Club de Belgique, 11 r. des Vauniers.

Charleroi—Automobile Club de Charleroi, 18 Quai de Brabant, Charleroi.

Ghent—Automobile Club de Flandres, 7 Place d'Armes, Gand.

Liege—Automobile Club, Liegeois, 2 r. Hamal.

FRANCE.

Amiens—Automobile Club de Picardie, 36 r. de La Hotoie.

Avignon—Automobile Club d'Avignon.

Bordeaux—L'Automobile Bordelais.

Dijon—Automobile Club, Bourguignons Café Americaine.

Lyon—Bicycle et Automobile Club de Lyon; Motor Club de Lyon, 3 pl. de la Bouise.

Marseilles—Automobile Club de Marseilles, 61 r. St. Fereol.

Nance—Automobile Club, Lorrain, Thiers pl.

Nice—Automobile Vélo, Club de Nice, 16 r. Chauvain.

*Paris—Automobile Club of France, 6 pl. de la Concorde; Motr-Club de France; Touring Club de France, 5 r. Coq-Héron.

Pau—Automobile Club, Bearnais Ave. de la Pau, President, M. W. K. Thorn.

Périgueux—Véloce Club, Périgourdin, Hôtel de Commerce.

Toulouse—Automobile Club, Toulousein Café Riche, pl. St. Etienne Société des Chauffeurs du Midi, 25 r. Roquelaine. President, M. Gay.

GERMANY.

Aachen (Aix la Chapelle)—Westdeutscher Automobile Club, Hotel Grand Monarque.

Berlin—Mitteleuropaischer Motor Wagen Verein, I. Universitatstrasse, Herr A. Klose.

*Deutscher Automobil Club, Luis-

enstrasse, 43-44. President, S. D. Herzog, Victor von Ratilin.

Dresden—Radfahrer-und Automobilisten Vereinigung; Dresdener Touren Club.

Eisenach—Mitteldeutscher Automobil Club; Motorfahrer Club, Eisenach.

Frankfort am Main—Frankfurter Automobil Club, Restaurant Kaiserhof.

Munich—Bayer. Automobil Club, 33 Findling Strasse.

Stettin—Erster Stettiner Bicycle und Automobil Club.

Strassburg—Strassburger Automobil Club.

Stuttgart—Suddeutscher Automobil Club; Wurtembergischer Motor Wagen Verein.

GREAT BRITAIN.

Birmingham—Motor and Cycle Trades Club, Corporation street.

Edinburgh—Scottish Automobile Club.

Liverpool—Liverpool Self-propelled Traffic Association, Colquitt street. Secretary, E. Shrapnell Smith.

*London—Automobile Club of Great Britain and Ireland, 4 Whitehall Court, S. W. Hon. Secretary, C. Harrington Moore.

Nottingham Automobile Club, Secretary, A. R. Atkey, Nottingham, England.

HOLLAND.

Nimègue—Nederlandsche Automobile Club. President, M. J.-P. Baekx.

ITALY.

Milan—Club Automobilisti Italiani, 14, Villa Vivaio.

*Turin—Automobile Club d'Italie Via Vittorio Amedeo II, 26.

RUSSIA.

Moscow—Moskauer Automobile Club, Petrowka, Hauschnow.

St. Petersburg—Automobile Club de Russe, President, M. Delorme.

SPAIN.

Madrid—Automobile Club de Madrid.

SWITZERLAND.

*Geneva—Automobile Club de Suisse, Rue de Hesse, 2, Geneva.

Railway Encouragement of Good Roads

IN the AUTOMOBILE MAGAZINE for last August there appeared an article accompanied by illustrations on the good work which the "good roads" train had done throughout the middle West and South. This train was planned by the Illinois Central Railroad, and now the Southern Railway is carrying on a similar enterprise. The following information as furnished by Mr. Harahan, second vice-president of the Illinois Central Railroad, is descriptive of what his company did, it appearing in the *Railroad Gazette*.

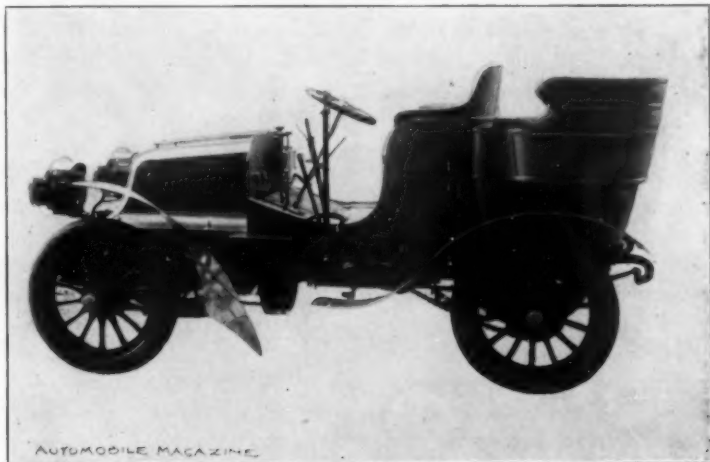
The benefits resulting from the "good roads" train run by the Illinois Central Railroad recently, in connection with the National Good Roads Association, through several States, are being felt in a different manner, owing to the different conditions prevailing in the different States.

In the State of Kentucky, where several stops were made, the turnpike roads in the interior having been model roads for nearly seventy-five years, or perhaps longer, Kentucky having been the pioneer State in the building of such roads and the National Government having encouraged such work, the improvement to be effected is not so great as that in other States. Part of the Great National Road, that was designed to extend from Washington to New Orleans, was built in Kentucky from Maysville to Paris and is still kept in splendid condition by the State, not by the United States Government, the work of internal improvement by the United States having received a quietus under Andrew Jackson. There has, however, been organized the Kentucky Good Roads Association, which has taken hold of the matter with considerable spirit with the intention of improving roads in sections of the State where they are not up to the standard.

In Tennessee following the convention held in Jackson, on Thursday, June 20, 1901, the Tennessee Good Roads Association was formed and subsequent to the trip of the train through the State of Tennessee, a convention was held at Nashville, which was fairly well attended by people from different portions of the State. Recommendations were made to the Legislature to be presented at its next session to be held in Nashville in January, 1903, and while no active progress has been made in regard to county action upon this matter, the interest in the matter of good roads will be continually agitated, and will undoubtedly produce good results.

In Mississippi at a recent meeting of the State convention of

Supervisors at Jackson, the good roads train and its fine work were frequently mentioned, and the statement was made that some twenty counties of Mississippi had already passed from the old method of working public roads to the contract system. The executive committee created by the State convention of Supervisors of Roads was charged with memorializing the Legislature for more progressive lessons along the lines of building and maintaining public highways, as people throughout the State were alive to the importance and necessity of this matter. The good roads convention held in Jackson,



The \$5,000, Four-Cylindered Gasmobile

Miss., as a culmination of the good roads county conventions of some months since, started this matter in Mississippi and the Good Roads Association organized as a result of that convention, will also memorialize the Legislature with the intention of having a conference held between the representatives of that organization and of the State convention of Supervisors, so that an agreement may be reached to work in harmony to the desired end. The impression seems to prevail that the Illinois Central good roads train did lasting good in this State; that it created a fine sentiment in favor of the improvement of public highways and fostered among the people the determination to do better by themselves in the future by the enactment of laws that will compel the counties to spend some money on public roads. Governor

Longino, of Mississippi, took high ground in his inaugural and other addresses in pointing out the absolute necessity for better public highways and has enlisted the services of the best men of the State in the agitation for good roads. The executive committee of the Mississippi Good Roads Association will meet at Jackson, Miss., on December 4 of this year for the purpose of framing a good roads law to be presented to the next session of the Legislature for passage.

In Louisiana there is an active movement for the formation of local good roads associations, the president of each of which local association is to be ex-officio member of the State Good Roads Association. This complete organization should be effected within the next sixty days. It is then the purpose to call a meeting of these delegates in New Orleans for the promotion of good roads work before the meeting of their Legislature, which is biennial and next occurs in May, 1902. There is a decided improvement in the good roads sentiment throughout the various parishes of the State as the State has already given a great deal of leeway in the matter of taxes for public roads and as the good roads sentiment improves these taxes are being levied. It takes some time to do this, but the work is going on and it is believed that within six months much good work will be done.

In Illinois there were but two stops made and, owing largely to the extreme heat and dry and dusty character of the roads to be worked over, the experiment was not as successful as it would have been under more favorable conditions.

Taking as a whole the information from the different States through which this good roads train passed it is fair to assume that the movement is well started looking toward the improvement of the roads and the more intelligent and consistent method of road building. This work is largely for the future and it will take some time before practical results can be produced that would demonstrate whether the trip of the good roads train over the Illinois Central Railroad was a conspicuous success or not. At the present writing it would seem to have been a success.

Belgium is arranging an automobile race wherein the vehicles are to run backward only, the drivers however, not being allowed to reverse their position on the vehicle and face backward. From all this it will be readily seen that the repairers and the surgeons are looking forward to this affair with pleasurable interest.

Homeopathic Road Improvement

IN a certain region of Seine-et-Oise the owner of a petroleum cycle, finding that the tax upon it was the same as upon a truck, refused to pay it. "Pay first and then reclaim the amount," urged the wily Mayor; but, not belonging to that species of sheep which permits itself to be sheared without protesting audibly, the gentleman in question declared his intention, as was his right, to work out his poll-tax for the benefit of the community. Without too much delay he received his notice from the



Mr. Ray Owen Oldsmobiling Through Central Park

municipal department to deliver 23 cubic meters of stone on different roads of his vicinity. At the time indicated the motocyclist appeared at the field of action on his machine and, having filled his pockets with pebbles, started to make his first trip. At this rate his efforts would extend over a period of more than six months. The authorities, whose ears tingled with the jokes arising at their expense, commenced to find his pleasantry unpalatable and tried every scheme to induce him to pay, but he remains implacable, on the pretence that it was not his fault if they imposed a task on him which he is unable to carry out speedily, despite the best of intentions.

To Reward Bravery in Stopping Runaways

EVER alert to advance the interests of its members and the public welfare as well, the Automobile Club of America at the last meeting of its Board of Governors adopted the following resolution :

That an appropriate gold medal be donated annually by the Automobile Club of America to the police officer who exhibits the greatest bravery and risk to himself in stopping a runaway horse in the city of Greater New York.

Certainly it can not be said that the A. C. A. is a selfish organization after this. Free from any danger of the steeds belonging to its members becoming frightened and running away, the club still recognizes the unfortunate positions of those less progressive in the matter of individual transport, and magnanimously does what it can to make even more efficient the gallant service of those life-savers of the road—the mounted police.

Metric Measures May Help

One hundred and seventy-two members of the British Parliament have signified their approval of the compulsory adoption of the metric system of weights and measures throughout Great Britain. The Decimal Association points out in a circular that in the interests of trade the reform should be made at once. The metric system is already permissive and legal in Great Britain and in the United States. Any manufacturer or merchant who wishes to increase his foreign trade is entirely at liberty to make his goods with metric dimensions and to invoice them in metric measures. How trade is to be increased by forcing him to do so is a mystery not yet explained by the busy advocates of the Decimal Association. We believe, however, that the American automobile maker having his strongest foreign competitor in the French and the German manufacturers, would have his chances of winning a foreign market made much easier were he building and selling vehicles and parts made and sold under metric measurement.

Italians are Gallant Clubmen

The Italian Automobile and Cycle club contains 974 members, of which 238 are women. Count Francesco Lazzaro, of Padua, lately made the ascent of Punta di Crocetta with a 12 H. P. motor, carrying five persons over a rough road, with frequent gradients of 12 per cent. at a long stretch.

Neither Snow nor Grade Worried It

THE picture herewith is not one published solely for its artisticness even as undeniable as that is. The vehicle, a $2\frac{3}{4}$ H. P. Pierce Motorette, is shown climbing Waite Street Hill, Boston. The grade at the point where the picture was taken was an $18\frac{1}{2}\%$ one. Though the snow was deep and much drifted the little carriage carried two persons to this point, where one got out and took the photograph. He then got in again and the vehicle and its two



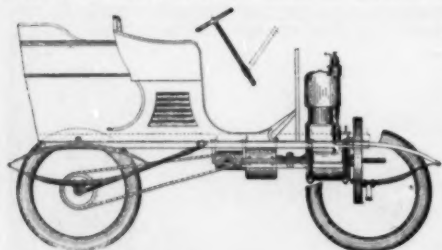
passengers proceeded on up the hill, which at one point has a 21% grade. In another test recently made this same carriage climbed Gardner Hill with two passengers, through snow eight inches deep.

Good Vehicles Always in Demand

Among the recent purchasers of Panhards were Messrs. W. S. Killmer, of Binghamton, and Eyrl Preston, of New York City. The former chose a 24 H. P. and the later a 40 H. P. vehicle, and Messrs. Smith & Mabley, who made the sale, received \$12,500 and \$17,500 respectively for the carriages. This is but a sample of how facts sometimes disagree with fiction. Fiction said that the public had enough of the high grade French vehicles; facts say that the public can not get enough of these foreign vehicles, because the makers of them build only the best and to do this make quality of production, not the quantity thereof, their only aim.

For the Man with Ideas of His Own

TO make easy the way of the man who wants a motor vehicle upon which his own individuality has made some impress, A. L. Dyke, of St. Louis, has placed upon the market the outfit here shown. With this and the other materials which Mr. Dyke supplies the man



with a mechanical bent will find it but little trouble to turn out a vehicle to his own liking. The success Mr. Dyke has had with this special line of automobile supplies has brought a number of imitators in the

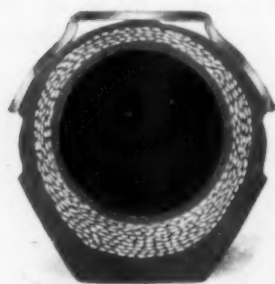
field, but none of them come anywhere near the pioneer St. Louisian either in originality of product or quality of the goods offered.

Why the Tubular Wheel is Favored

Americans have not taken any too kindly to the heavy spoked artillery wheel which is in almost universal use abroad. True some have objected to the spidery appearance of the tangent spoked wire wheel, and sought for something which comprised both the appearance of the artillery wheel with the strength of the wire one. To this large contingent of American automobilists the Midgley tubular steel wheels appeal most forcibly. While the Midgley wheel is a distinctly American idea, built for Americans and by Americans, in neither one nor the other has Thomas Midgley, the famous racing man of other days, lost sight of the lessons learned by European builders of high grade vehicles. The result is that the wheel is meeting with an unusual success, many owners of vehicles having the Midgley wheels substituted for the ones supplied by the makers at the time of the vehicle's purchase. The home of the tubular wheel is in Columbus, Ohio, where the plant of its makers, the Midgley Manufacturing Company, is one of the industrial show places of that city.

Rides Like Velvet

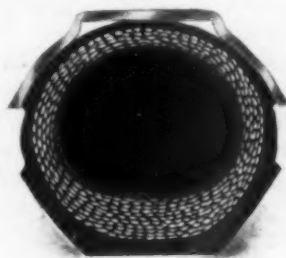
“TOUGH as whalebone” is a simile which is the shortest way of telling the story of elasticity coupled with indestructibility. Perhaps it was the possession of these qualities which induced the American Rubber Works Company, New Brunswick, N. J., to name their puncture proof automobile tire the “Whalebone.” Whether it is to the fabric, the composition or the construction, or to a combination of all three, that the Whalebone



Inflated

owes its immunity from puncture and most of the other ills with which tires are afflicted matters not, so long as the fact remains that the Whalebone is immune. The cuts herewith tell plainly why even when entirely deflated there are no destructive sharp bends or rim cutting with Whalebone tires as there are with the old style tire. The advisability of using Whalebone tires is conclusively set forth by their makers in this fashion :

They are puncture proof. They last twice as long as any other tire made. They are capable of carrying double the air pressure of any other tire without increasing their diameter. They throw less mud and very much less dust. Being reinforced on the upper side they are never cut by the rim. They are more graceful in design and outline than any other tire, and give unequalled finish to the wheel. They maintain, under all loads, the same tread surface. The valves remain tight as the column of air in the tire is less



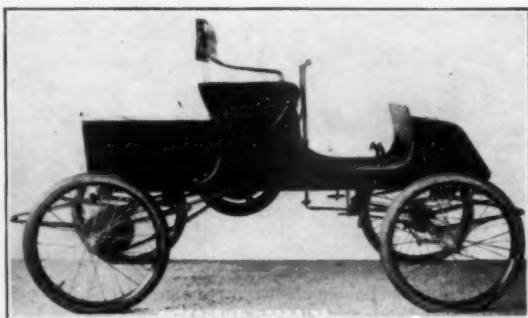
Deflated

disturbed. The resiliency is better distributed, and they ride easier. The trade-mark “Whalebone-Rubber” means that the rubber in these tires is as tough as Whalebone. The fabric and rubber are *positively inseparable*, thus giving durability and strength.

What the Rambler Is

WHEREVER in the world a bicycle is ridden there is the name of Thomas B. Jeffery known. What the Rambler bicycle was to the manumotive vehicle the Rambler automobile will be to the motor one.

The Thomas B. Jeffery who designed and built the Rambler bicycle did the same thing for the Rambler automobile, and the more than twenty years he spent in the study of the manumotive vehicle has not been lost sight of in the three years he has devoted to perfecting the automobile here shown. Today then, the Rambler motor carriage is not an experiment, built by no one knows who and capable of doing no one knows what. To the contrary it is the product of an experienced and trained designer who took three years to surely accomplish what inexperienced



and irresponsible makers have pretended to do in the same number of months—and failed. Backed by the reputation of its designer and by the firm that build it, the Thomas B. Jeffery & Co., Kenosha, Wis., the buyer of this vehicle pays his money with the certainty that he is not asked to receive in return, a vehicular allegment which has neither a present, a future nor a past.

Low Priced, but High Grade

Decidedly pleasing are both the designing and the construction of the National Vehicle Company's new vehicle, the Electrobile. With the price of the new vehicle well below \$900, it would seem as though the demand for the carriage would tax to the limit, even the facilities of the National plant, extensive as they are.

The Friedman Automobile

ONE of the latest candidates for favor with automobilists is the Friedman runabout, a picture of which is shown with this.

As will be seen it is one of the low vehicles which seem to be growing in popularity along with its wooden wheels and large tires. This vehicle has a four H. P. opposed cylinder motor, but in the future motors will be six H. P.

The drive is entirely frictional so that there is no gear box, permitting any variation of speed that is desired. This is controlled by one lever for both directions. The clutch is thrown in by bringing the steering lever into its normal position so that the application of power is always under control and can be released at once by merely raising the steering lever a trifle. In emergencies this should prove easier than reaching for a separate lever. The radiation is through plain tubing in front and as there is ample cooling surface no radiating flanges are used. The entire engine is oiled from one large cup. Starting is accomplished either by crank or by foot pressure from the seat and the entire machinery is very accessible for inspection and repairs.



The newcomer is one of the very moderate priced vehicles and should prove very popular as it is being manufactured in quantity and immediate deliveries can be obtained. A new catalogue is about ready, which will give complete information concerning it.

The J. Stevens Arms and Tool Company, makers of the Stevens-Duryea gasoline carriage, have struck the idea of having a different fancy lithographed envelope for every day in the week. They are well done and should attract attention.

A Strut-Band, a Casing and an Inner Tube

THERE is a tire which will fit any rim and can easily be placed there by any man unaided. It can be removed in whole or in part and repaired on the road without the use of tools, while its shape is such that much, if not all, of the liability to cut or chafe on the rims is avoided. Besides these manifest advantages it is supplied with a positive compressed tread which is supplied for the purpose of instantly closing cuts and punctures. The Clark Tire Company, of Chicago, who are the makers of this tire and who have always regarded themselves as tire specialists, say that after the most severe tests, extending over a long period, their idea of fastening the tire by means of a strut-band so arranged as to engage with openings in any standard rim results in giving them one of the most practical and easiest-handled double-tube detachable tires on the market. Certainly the appearance and workmanlike finish of the Clark tire bear out all of the commendation it has received not only from its makers but from its users as well.



Judge Lacombe of the United States Circuit Court has granted a temporary injunction against the Porter Battery Company of Chicago, which is being sued by the Electric Storage Battery Company for infringement on the patent of the Brush battery.

It will be noticed in favor of the automobilist who is always borrowing trouble that invariably he gives away all that he borrows and more, too.

The purchaser of a motor vehicle who thinks he will never learn how to run one rarely does so.

